

Manufacturers Record

Reg. U. S. Pat. Office

Industry Construction



\$6.50 per Year
Single Copy, 20 Cents



Baltimore, Md.
JULY 23, 1931

Industry Locates in Smaller Centers

A brighter side to the present-day dull business picture is presented by the new industries that are being established and the plans being made for expansion of others.

One of the great public utility organizations recently announced that in the 26 states in which it operates, 150 new manufacturing enterprises were established and 268 expansions of existing plants were made during 1930. No complete figures are available for the first six months of 1931, but indications are that the development has been in about the same proportion as last year.

A considerable proportion of the new plants were built for manufacturing concerns removing from metropolitan centers to smaller cities and towns.

This is in line with the trend of the past several years, when factories oftentimes have found that cheaper rent can be obtained by moving to a smaller community, and if a plant is to be built, less initial investment is required. It has been possible, also, to find better labor conditions with cheap power and to be nearer to the source of raw materials.

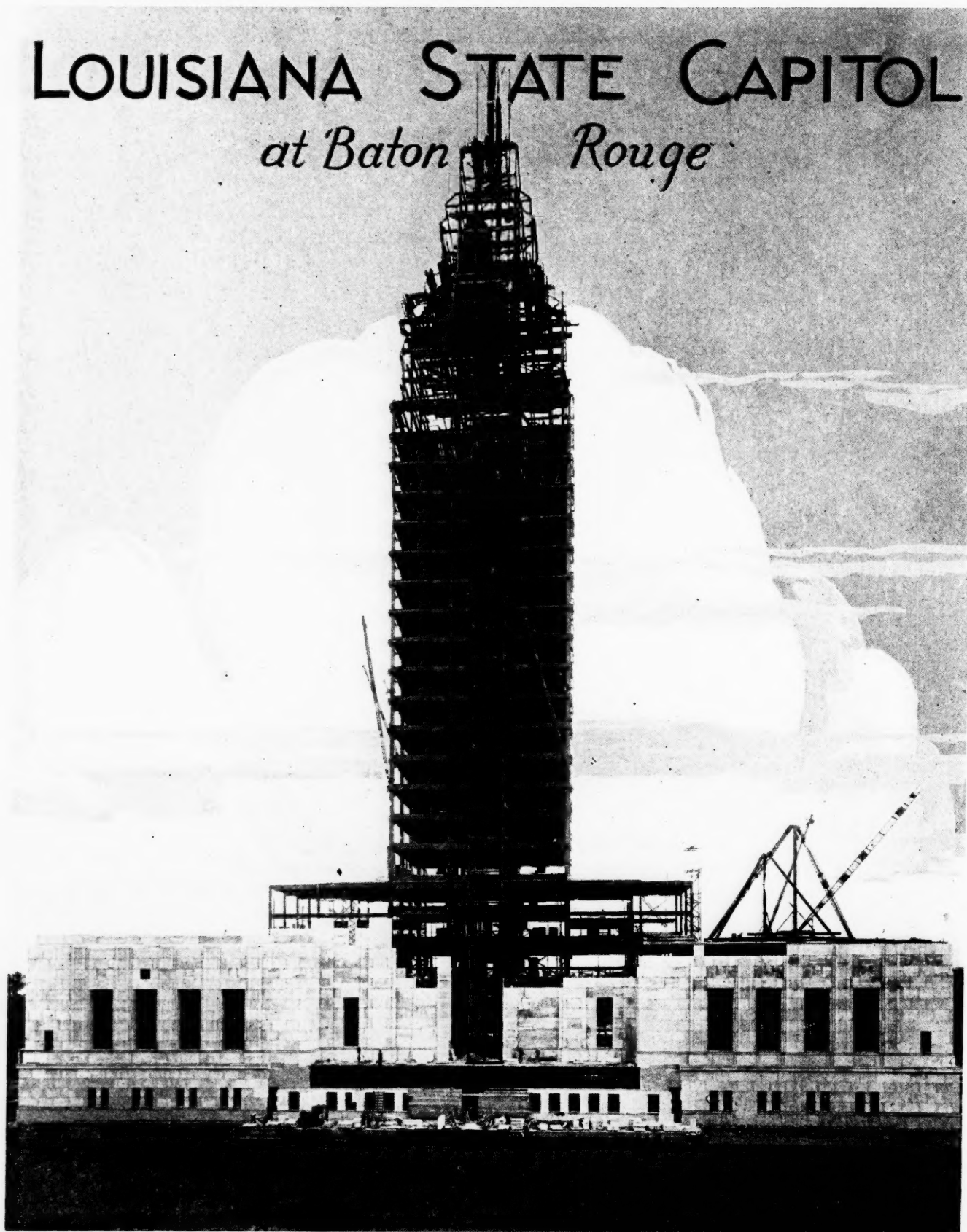
Many of the larger industries of the country are awaiting a suitable opportunity to establish branch plants in smaller communities. New industries being formed in other sections are seeking desirable locations. The South has all the necessary advantages to attract such enterprises.

While great progress has been made in the last decade in the line of industrial development, the present seems an opportune time—with practically every item of cost at probably the lowest point for years—for Chambers of Commerce, public utility enterprises and investment interests of Southern towns and cities to formulate definite plans for industrial expansion. No section of this or any other country can offer advantages comparable to those of the Southern states.

Lethargic trade conditions will change before long. The South must encourage continual growth from within through the development of its resources by its own people. Far-seeing communities will do well to lay now the foundation for future activity.

LOUISIANA STATE CAPITOL

at Baton Rouge



3200 TONS OF
THE INCALES
BIRMINGHAM, ALA.

Architects: Weiss, Dreyfous & Seiferth, Inc.; Structural Engineer: George P. Rice; General Contractors: George A. Fuller Company.

Entered as second-class matter at the Postoffice, Baltimore, Md., under the act of March 3, 1879.

DIG WITHOUT DIVIDING THE ENGINE POWER



Rock digging is easy when you can concentrate all the mighty engine power of the big slow speed power plant at the dipper lip for digging. Cut into the bank and crowd while hoisting without that division of engine power that comes where the two operations are performed by separate mechanisms.

There is the secret of Northwest's tremendous digging force—the reason why a Northwest will handle 25% harder digging.

Add to this its ability to spot the dipper out beyond the boom head without the hoist cable pulling against the crowd and you have a combination of features that offers a real advantage.

This crowding mechanism will mean profits to every contractor.

with the
*Close-
Quarter
Independent
Crowd!*

BRANCH OFFICES

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Memphis, Tenn.
Second at Butler

Dallas, Texas
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NORTHWEST ENGINEERING CO.

*The world's largest exclusive builders of gasoline, oil burning
and electric powered shovels, cranes and draglines*

1733 Steger Bldg.

28 E. Jackson Blvd.

Chicago, Ill., U. S. A.

MR 7-23-Gray

25%
HARDER
DIGGING

NORTHWEST

THIS
IS
PAGE
3



AmCreCo creosoted timber for highway bridges



SATISFACTORY material for the construction of highway bridges must provide adequate strength over a period of years at a low first cost and negligible maintenance cost.

AmCreCo products combine the natural strength of carefully selected timber with the resistance to decay and other deterioration which is provided only by the best type of wood preservation. As a result of 25 years in the field, this organization has established standards of practice which are known to be fundamentally sound. Every detail which

can add to the ultimate value of the product is given full consideration.

Highway bridges built of such timber combine low first cost and dependable long life. Ease of installation and ready availability throughout the southeast are added advantages.

Why not get the most out of your bridge appropriation this year?

AMERICAN CREOSOTING COMPANY

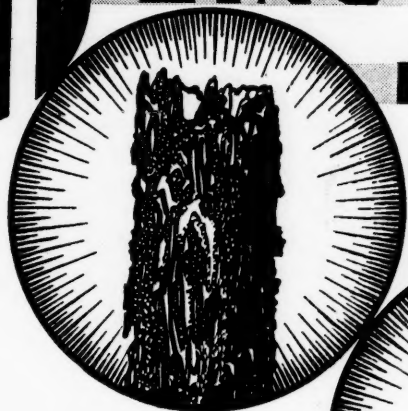
COLONIAL
CREOSOTING
COMPANY
INCORPORATED



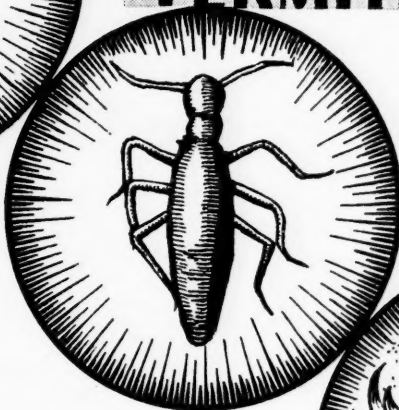
GEORGIA
CREOSOTING
COMPANY
INCORPORATED

LOUISVILLE — KENTUCKY

MILL TIMBERS preserved with ZINC CHLORIDE are ROT-PROOF



TERMITE-RESISTANT



FIRE-RETARDING



WOOD preservation is today an economical necessity. Modern engineers and executives know that expensive waste invariably occurs whenever structural timbers are not protected against ROT, INSECTS and FIRE.

Zinc Chloride treated wood has many times the life of untreated timbers. It eliminates the need of several costly replacements. It is proof against ROT, secure against TERMITES (White Ants), and resistant to FIRE.

Zinc Chloride treatment of wood has many advantages over other methods of wood preservation. Wood treated with Zinc Chloride is *clean*, similar in color to untreated wood, *odorless*, *non-volatile*, and readily *paintable*.

Commercial treating plants are located conveniently near you. They are equipped to treat under pressure every structural or other timber you will require. Ask them to explain the economies resulting from Zinc Chloride treatment of wood. Write us for their names if you wish.

THE GRASSELLI CHEMICAL COMPANY
Incorporated

CLEVELAND



OHIO

Branches in principal cities

Send the coupon
for authoritative,
illustrated booklet
on wood preservation.



THE GRASSELLI CHEMICAL CO.
629 Euclid Ave., Cleveland, Ohio

Please send me, without cost or obligation,
your booklet "Looking Ahead Twenty Years
in Wood Utility."

Name
Address
City
State

Z GRASSELLI INC CHLORIDE

A Positive Preventive of DECAY in Mill Timbers

IN these days of urgent necessity for strict economy, it is sometimes easy to think of first cost as final. But, as every contractor ought to know, first cost for a piece of equipment is not always a good measuring stick.

LaBour Pumps have demonstrated beyond all doubt that they are the most economical pumps you can buy. If you measure service by years or by number of gallons pumped, you will find LaBour Pumps low in cost. If you consider also the cost of delays due to pump failures or the necessity for pump repairs, then there will be no question in your mind.

"Never Lay Down On The Job" is not just a slogan. It is a statement of true facts and was not used in LaBour advertising until years of service had demonstrated its truth.

THE LABOUR CO., INC.

703 STERLING AVENUE
ELKHART, INDIANA

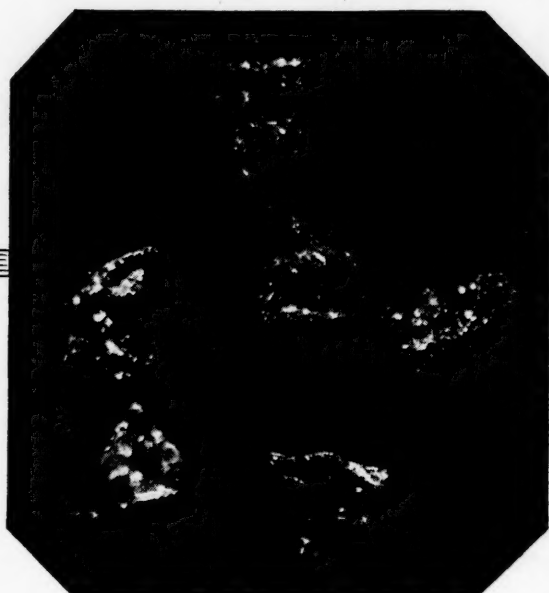


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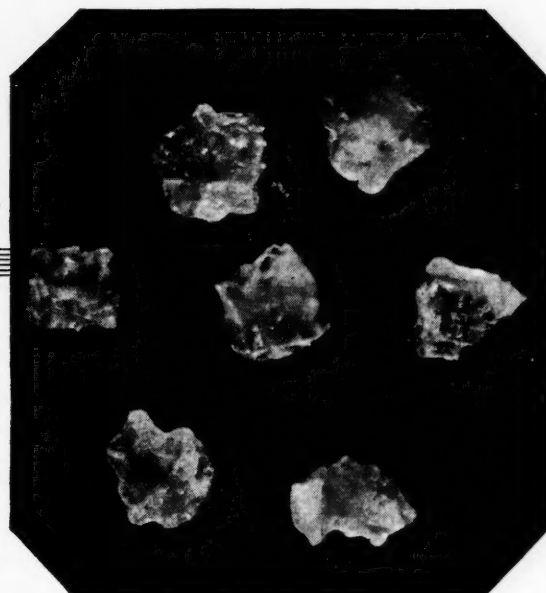
LA BOUR PUMPS

NEVER LAY DOWN ON THE JOB

THIS THING CALLED SURFACE TENACITY



Microphotograph of regular or untreated "Aloxite" grain. Note the smooth, shiny transparent, "clear" surfaces. No real surface tenacity.



Microphotograph of Aloxite Brand "TP" Grain. Note the roughened grey, opaque, surfaces. This is the grain with surface tenacity.

It's a very definite quality which we have literally "built into" Aloxite "TP" Polishing Grain.

And we are the originators of this improvement.

Surface Tenacity is what gives "TP" its bulldog grip—"TP" stays with the wheel until worn—until it has done its full duty.

Surface Tenacity gives it greater glue adhesion—greater holding power—and it's a fixed, permanent quality.

"TP" is laboratory controlled—a clean grain well formed, angular, fast cutting and free from "lazy" non-producing flats and splinters.

"TP" packs readily—holds in the green—grips tenaciously on the dried set-up wheel.

Then too, it is uniformly graded—hard, sharp, tough.

But the best way to prove the qualities of "TP" is to give it a trial in your polishing room.

[GLAD TO SEND WORKING SAMPLES]

ALOXITE BRAND "TP" POLISHING GRAIN

REG. U. S. PAT. OFF.

THE GRAIN WITH SURFACE TENACITY

THE CARBORUNDUM COMPANY, NIAGARA FALLS, N. Y.

REG. U. S. PAT. OFF.

CANADIAN CARBORUNDUM CO., LTD., NIAGARA FALLS, ONT.

SALES OFFICES AND WAREHOUSES IN New York : Chicago : Boston : Philadelphia : Cleveland : Detroit : Cincinnati : Pittsburgh : Milwaukee : Grand Rapids : Toronto, Ont.

The Carborundum Co., Ltd., Manchester, England * Deutsche Carborundum Werke, Reisholz bei Dusseldorf, Germany

(CARBORUNDUM AND ALOXITE ARE REGISTERED TRADE MARKS OF THE CARBORUNDUM COMPANY)

The Largest Company-Owned Truck Service Organization in the World

MANY factors have contributed to the phenomenal rise of International Trucks but none has contributed more than the after-sale service. Service is a paramount issue today! What could be more important than adequate service facilities for hard-working, roughly-treated trucks that must carry on, economically, for many years? Fleet owners, confronted with new problems of cost-reduction, are asking themselves that question, and answering it by buying Internationals. They are investing in International Trucks and *putting the entire servicing burden on the shoulders of International Harvester.*

Some years ago International Harvester conceived an ideal of truck service the full import of which was far ahead of the industry—and then proceeded to build that ideal into a nation-wide

network of branches equipped to handle every possible service need and emergency. *Today the largest, strongest, most effective Company-owned truck service organization in existence is at the call of International owners.*



Put your servicing problem and responsibility squarely and completely up to International Harvester. You cannot afford to maintain burdensome repair stocks, trained personnel, and costly modern equipment for repairs and overhauling. We cannot afford *not* to provide the very best of service everywhere. *Your job is hauling. Our job is to provide quality trucks—and to keep them on the job.*

Let's maintain this logical and practical division of labor. We assure you great savings, great benefits. *We are equipped for mass-production of service and that means lowest possible costs every step of the way, as tens of thousands of International owners know to their lasting satisfaction.*

* * * *

One of the 183 International Company-owned branches is near you. It is part of the Gibraltar of truck service—it is there to stay. Besides the branches there are International dealer-owned stations at many points, so that, wherever your trucks go, they stay in range of International service. See the full line of International Trucks, ranging from ¾-ton to 5-ton, at any display room. Demonstration on request.

INTERNATIONAL HARVESTER COMPANY
606 So. Michigan Ave. OF AMERICA
(INCORPORATED) Chicago, Illinois

INTERNATIONAL TRUCKS

VIRGINIA BRIDGE

Presents

TODAY'S AND TOMORROW'S—BRIDGES

An Epic in Six Pictures



Heavy traffic requires strong bridges, wide rivers, long spans. We want to get "across the river" quick, older methods are too slow. Also we want to be sure we can get across anytime and all the time.

As in the case of the skyscraper, steel and the steel engineer and builder have made possible our long-span bridges thereby keeping clear a wide channel in navigable waterways and also avoiding the hazards of deep water foundations.

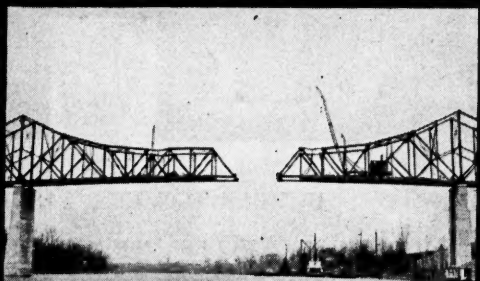
More and more State highway departments have been enabled to connect up important routes with a safe dependable steel bridge, good for today and many tomorrows.

Our Company has had a considerable part in this, just as it has had in steel bridge and building construction generally throughout the South and West for nearly 40 years.



VIRGINIA BRIDGE & IRON CO.

Roanoke Birmingham Memphis Atlanta New Orleans
New York Los Angeles Charlotte Dallas El Paso



790-foot Cantilever Highway Span over White River, Clarendon, Ark., manufactured and erected by us. Ira G. Hedrick, Inc., Consulting Engineer, Austin Bridge Co., General Contractors.



766-foot continuous span over Tennessee River, Scottsboro, Ala. Kansas City Bridge Co., General Contractors.



766-foot continuous span and four 200-foot spans over the Tennessee River at Whitesburg, Ala. Hardaway Contracting Co., Gen'l Contr's. We manufactured and erected this steelwork, as well as the Scottsboro Bridge above.

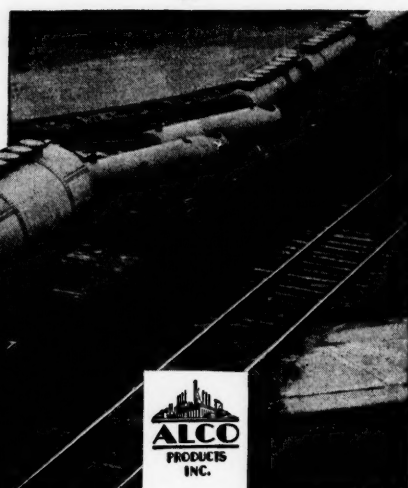
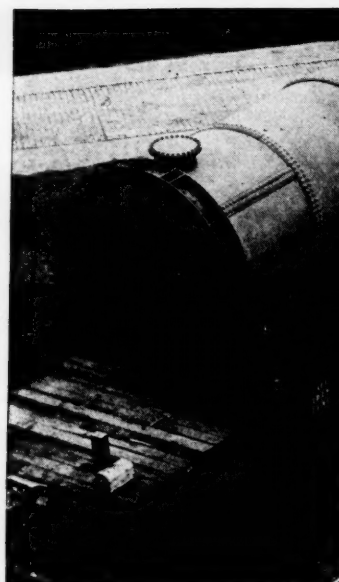


640-foot Cantilever Span over White River, Newport, Ark. Ira G. Hedrick, Inc., Consulting Engineer, Missouri Valley Bridge & Iron Co., Gen'l Contr's. We furnished a duplicate of this span for White River Bridge at New Augusta, Ark.

ALCO

STEEL PLATE WORK

Prompt Delivery
Low Cost
Guaranteed Quality



BUBBLE TOWERS · SCRUBBERS
MIXING KETTLES · PRESSURE TANKS
DIGESTERS · AUTOCLAVES · VULCANIZERS
LARGE DIAMETER STEEL PIPES · SPECIAL VESSELS
IMPREGNATORS · CREOSOTING CYLINDERS · STILLs

WRITE FOR BULLETIN 1011

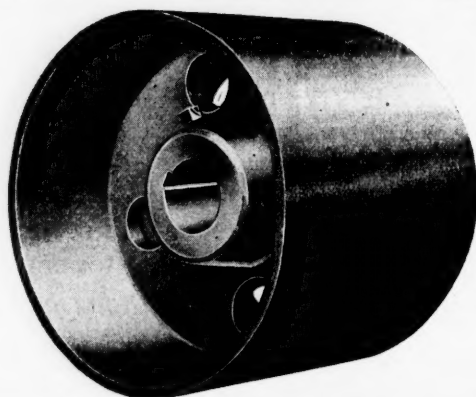
ALCO PRODUCTS · INCORPORATED

MAIN OFFICE: 220 East 42d St., New York, N. Y.; DISTRICT OFFICES: McCormick Bldg., Chicago; Terminal Tower Bldg., Cleveland; Esperson Bldg., Houston, Tex.; Philtower Bldg., Tulsa, Okla. · Plant at Dunkirk, N. Y. · Cable address: ALPRODUCTS

DIVISION · OF · AMERICAN · LOCOMOTIVE · COMPANY

Web Center Cast Iron Motor Pulleys

Eliminate the Troubles other types give



WEB CENTER Pulleys are especially adapted for Motors, Saw Mandrels, Tighteners and other high speed and heavy duty service, and are classified by us as follows:

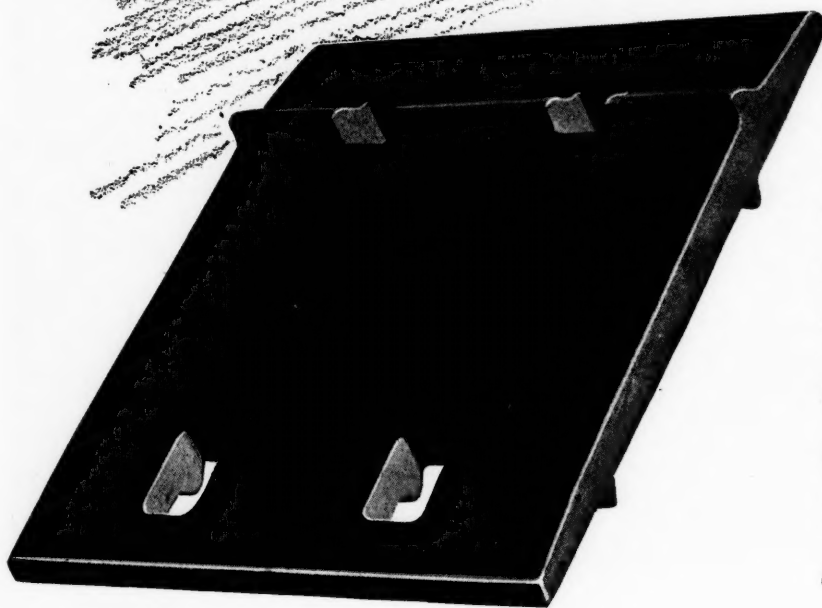
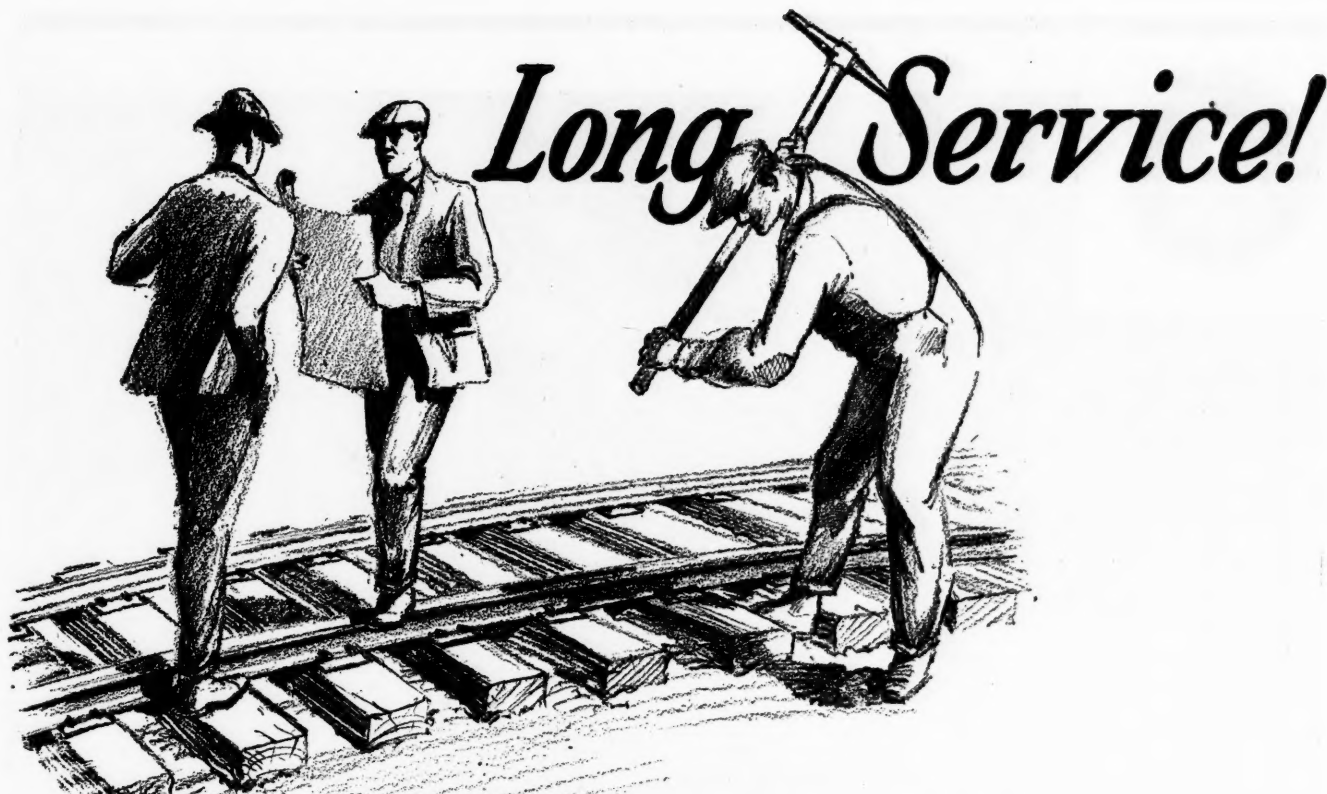
STANDARD—These Pulleys are bored, keyseated or set screwed, and turned all over, thus securing the best possible balance.

SEMI-FINISHED—These Pulleys are bored, keyseated or set screwed, and turned on outside and inside of rim, but not on web or hub.

ROUGH FINISHED—These Pulleys are bored, keyseated or set screwed, and turned on outside of rim only.

GOLDENS' FOUNDRY & MACHINE CO., COLUMBUS, GA.

"We have furnished more Complete and Partial Pulley and Shafting Equipment to Cotton Mills than any other manufacturer in the United States"



Long service is the first requisite of a good tie plate. Couple Service with Safety and Performance and select a Tennessee design—there is one to meet your ideas and requirements . . .
You Can't Go Wrong With a Tennessee Tie Plate



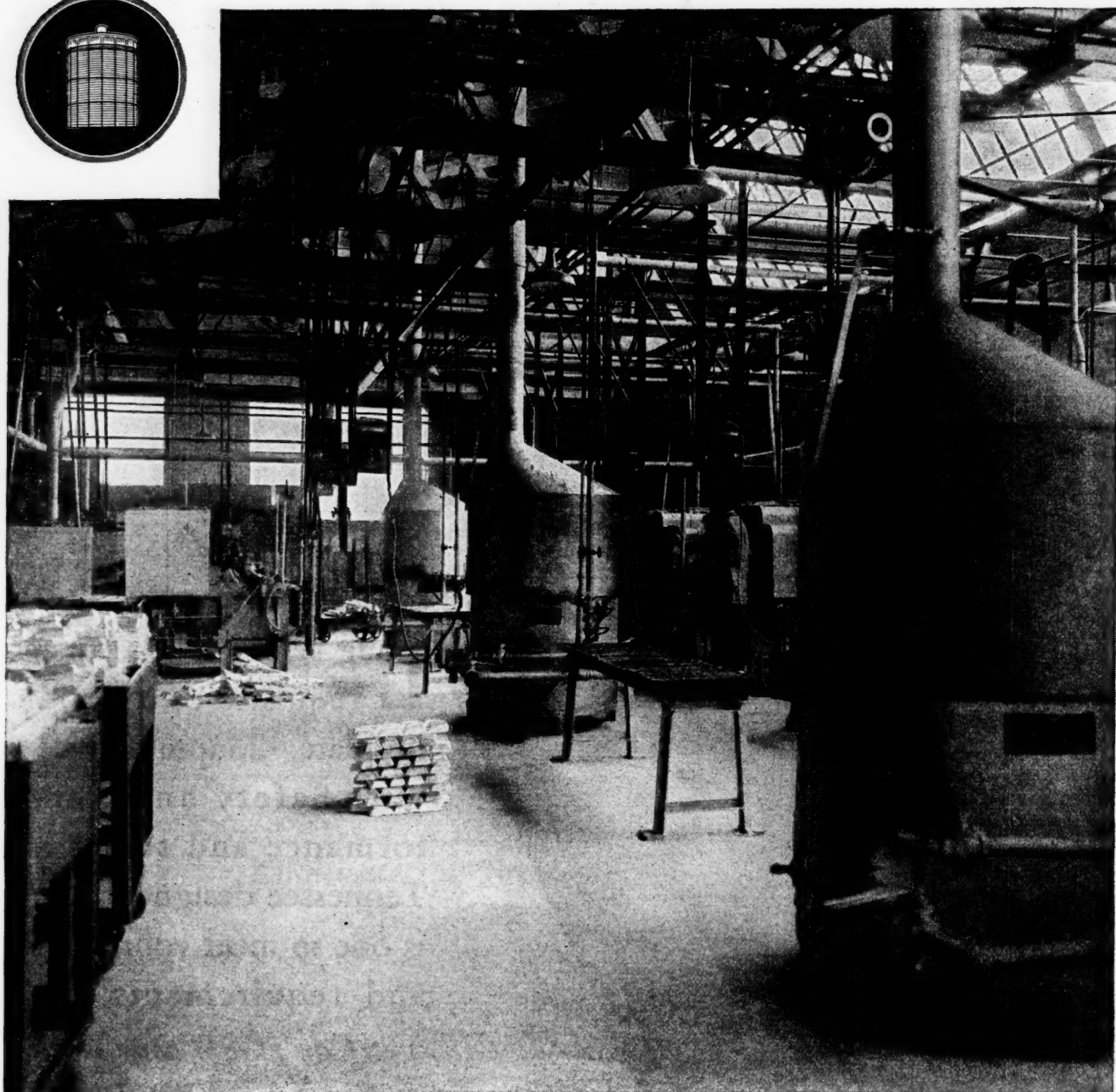
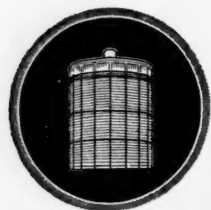
Tennessee Coal, Iron & Railroad Co.

Subsidiary of United States Steel Corporation

General Offices: Brown-Marx Building, Birmingham, Alabama



**TENNESSEE
TIE PLATES**



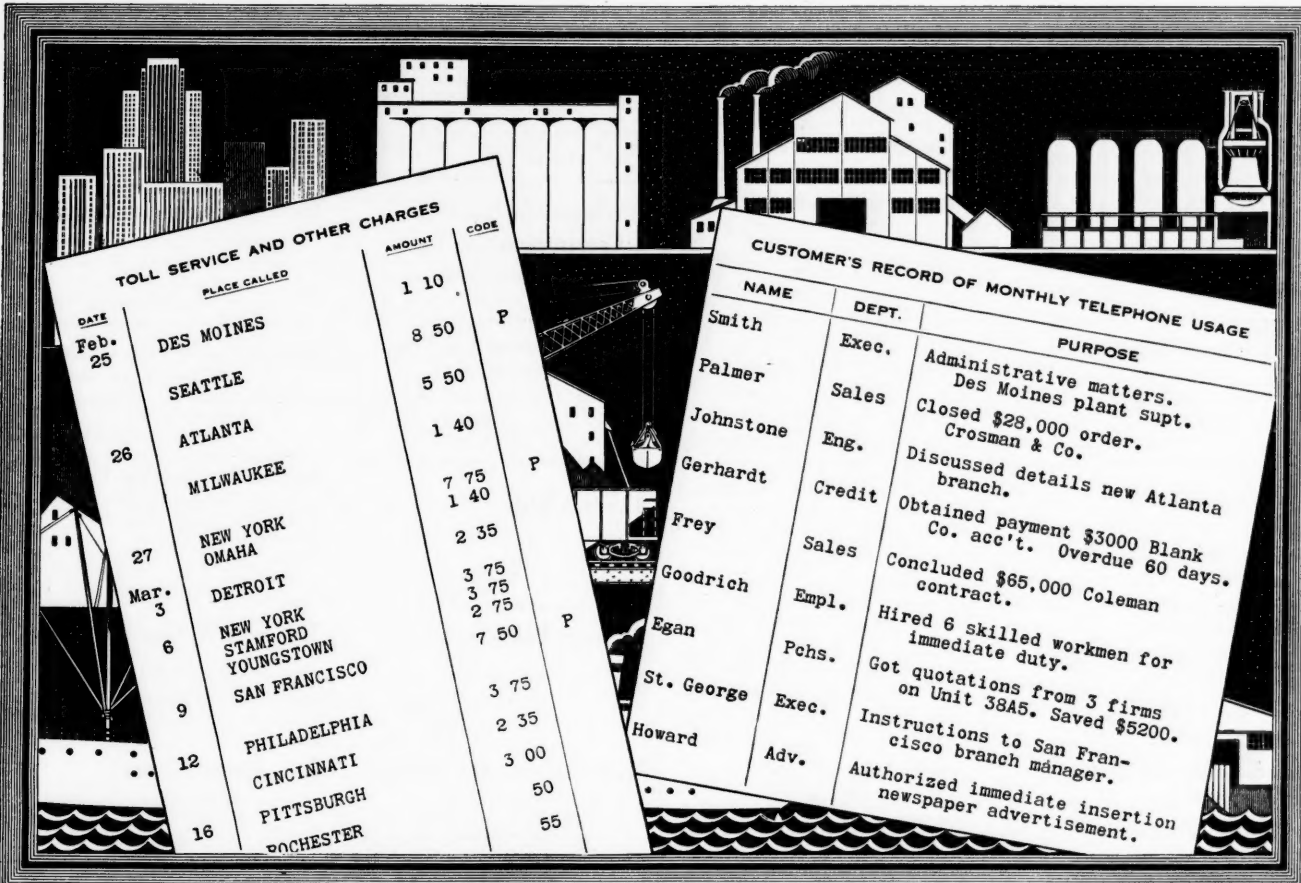
GAS heat is the preferred heat for die-casting. It is adaptable to the nth degree; it puts the heat where it is needed; it is economical; its application is simple. The new illustrated book "Gas Heat in Industry" tells the story. Send for your copy (it's free) today.

AMERICAN *Gas* ASSOCIATION

420 Lexington Avenue, New York

GAS FOR HEAT WHEREVER HEAT IS NEEDED

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DATE	PLACE CALLED	AMOUNT	CODE
Feb. 25	DES MOINES	1 10	
	SEATTLE	8 50	P
26	ATLANTA	5 50	
	MILWAUKEE	1 40	
27	NEW YORK	7 75	P
	OMAHA	1 40	
Mar. 3	DETROIT	2 35	
6	NEW YORK	3 75	
	STAMFORD	3 75	
	YOUNGSTOWN	2 75	
9	SAN FRANCISCO	7 50	P
12	PHILADELPHIA	3 75	
	CINCINNATI	2 35	
16	PITTSBURGH	3 00	
	ROCHESTER	50	
		55	

NAME	DEPT.	PURPOSE
Smith	Exec.	Administrative matters.
Palmer	Sales	Des Moines plant supt.
Johnstone	Eng.	Closed \$28,000 order.
Gerhardt	Credit	Crosman & Co.
Frey	Sales	Discussed details new Atlanta branch.
Goodrich	Empl.	Obtained payment \$3000 Blank Co. acc't. Overdue 60 days.
Egan	Pchs.	Concluded \$65,000 Coleman contract.
St. George	Exec.	Hired 6 skilled workmen for immediate duty.
Howard	Adv.	Got quotations from 3 firms on Unit 38A5. Saved \$5200.
		Instructions to San Francisco branch manager.
		Authorized immediate insertion newspaper advertisement.

THE TELEPHONE brings marked economy in the transaction of inter-city business. Saves valuable time for executives. Speeds production and deliveries. Straightens out misunderstandings. Simplifies operations.

A leading flour mill company uses Long Distance in all phases of its business. Executives at the home office direct branches and mills in various parts of the country chiefly by daily telephone calls. They maintain personal contact regularly with out-of-town customers by telephone. Speaking of the firm's Long Distance bill, an official says: "We think it is one of the best investments we make." A textile company was in the market for

goods of a certain kind. Prices quoted were not satisfactory. The purchasing agent telephoned three different cities. With the information gained, he saved his firm \$6000 on one order.

A large Ohio specialty company, through its sales manager, closed a \$45,000 deal during a three-minute telephone call to Kansas City. Cost of the call, \$3.

Inter-city calls cost little, yield big. Typical station-to-station day rates: New York to Boston, \$1. Pittsburgh to Indianapolis, \$1.50. Seattle to Omaha, \$5. Evening and night rates, still lower. Get things done by telephone . . . *Quick . . . Inexpensive . . . Resultful.*



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ENGINEERS

CHEMISTS

GEOLOGISTS

CHEMICAL ENGINEERS

ACCOUNTANTS

CONTRACTORS

Detailed classification of specialized work undertaken by those having cards in this Directory will be found in Classified Index.

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MOBILE, ALA.

Charlton & Davis

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WEST PALM BEACH

Elroy G. Smith

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Civil-Hydraulic Engineer
Industrial Hydro-Electric Development
a Specialty
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Industrial Village Utilities
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Harza Engineering Co.

Consulting Engineers

Dams, Hydraulic, Hydro-Electric, Flood
Control and Sanitary Projects
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Consulting Engineer

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City Bank Bldg., SHREVEPORT, LA.

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Design, Construction, Investigation, Ad-
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1201 St. Paul St., BALTIMORE, MD.

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ALBANY, N. Y.

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Electrical, Steam and Water Power
Reports Appraisals
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M. Am. Soc. C. E. Reinforced concrete
and Structural Steel Bridges, Buildings,
and Manufacturing Plants.
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MINNEAPOLIS, MINN.

Walter H. Wheeler

M.A.S.C.E. and M.E.

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1000 Met. Life Bldg.,
MINNEAPOLIS, MINN.

Consoer, Older & Quinlan, Inc.

Mems. A. S. C. E.

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Established 1893
Incorporated 1895
Builders of Railroad and
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Consulting Engineers

Hydro-Electric Developments, Central
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NEW YORK CHARLOTTE, N.C.

MacElwee & Crandall, Inc.

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Investigations, Reports, Design, Super-
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Front, Reclamation, Industrial Surveys
Main Office: 11 West 42nd Street
134 Main Street CAMBRIDGE, MASS. NEW YORK CITY

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Water Supply and Purification, Sewer-
age and Sewage Disposal, Valuations,
Laboratory, City Planning.
PITTSBURGH, PA.

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Steel and Reinforced Concrete Buildings,
Bridges and Viaducts
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Freeland, Roberts & Co.

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Cold and Dry STORAGE WAREHOUSE
DESIGNS
Reports—Appraisals—Designs—Surveys
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Water Sup.—Sewer Sys.—Oil and Gas Lines
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Consulting Engineer

Sewage Disposal Plants and Sewerage
Systems—Utilization and Disposal of
Industrial Wastes, Power Plants,
Design, Construction, Operation, Labora-
tory Service, Valuations and Reports.
647 W. Virginia St.,
MILWAUKEE, WIS.

Smallman-MacQueen Construction Co., Inc.

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T. C. Thompson and Bros.

Incorporated 1895

General Contractors and Builders
BIRMINGHAM, ALA.
CHARLOTTE, N. C.

Algernon Blair

Contractor

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Southern Erectors, Inc.

Steel Erectors

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TAMPA, FLA.

Walker Electrical Company

Electrical Contractors

General Offices: ATLANTA, GA.
Sales Offices:
ATLANTA, GA. COLUMBUS, GA.
GREENSBORO, N. C.

Hoosier Engineering Company

100 W. Monroe St., CHICAGO

Erectors of Transmission Lines
Electric—Gas—Oil
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SEATTLE, WASH. NEW YORK, N. Y.

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John Eichleay, Jr. Co.

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Structural Steel
House Raising and Moving
Shoring and Foundation Work
South 20th & Wharton Sts.
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For Power Piping, Heating and
Sprinkler Systems
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Lee A. Gridley Construction Co.

General Construction

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KNOXVILLE, TENN.

Steel & Lebby

JOHN A. STEEL, JR.

THOS. D. LEBBY

Engineers and Constructors
The design and erection of concrete and
steel structures.
Holston Bank Building,
KNOXVILLE, TENN.

The Warner Service Company

Electrical and Mechanical
ContractorsCor. Clinch and Central Ave.
KNOXVILLE, TENN.

Charles W. Alpaugh & Sons

Hydraulic and Construction Engineers
Dams a Specialty: Investigations,
Estimates Free
MANASSAS, VA.

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General Contractors

Government — Municipal — Industrial
Buildings — Power Plants — Heating
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Sewer and Water Systems — Dams
Fire Protection — Refrigeration
1st Nat'l Bk Bldg.
NEWPORT NEWS, VA.

The John W. Cowper Co., Inc.

General Contractors

843-851 National Press Bldg.,
WASHINGTON, D. C.

J. L. Myers & Sons

Drillers of Shallow and Deep Wells
in the South Since 1894
Box 105, T. C. Station
DENTON, TEXAS

Audit Company of the South

Charles James Metz

President

Mem. American Institute of Accountants
Certified Public Accountant of Georgia
ATLANTA, GA.

Joe B. Martin

Quantity Surveys

CHARLOTTE, N. C.
Sixteen Years Actual Experience

The Howard-Hickory Co.

Nurserymen

Landscape Gardeners
Correspondence
solicited
HICKORY, N. C.

W. Wade Moss, Jr.

Chemist

Research and Creative Laboratories
Development of Industrial Processes
Special attention given to exploration of
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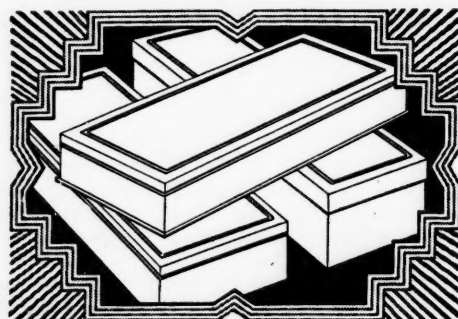
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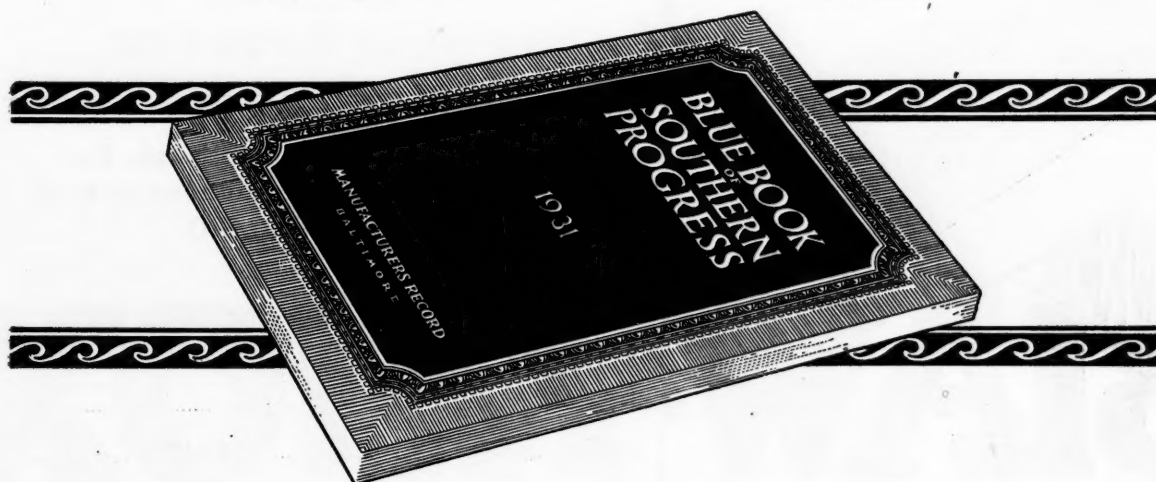
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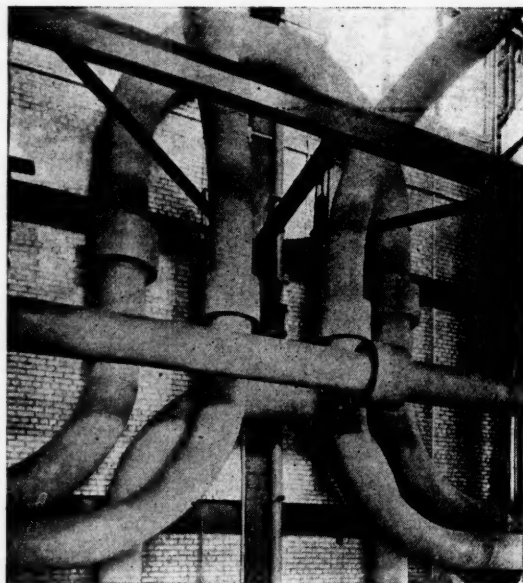
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Vol. C No. 4 }
Weekly }

BALTIMORE, JULY 23, 1931

{ Single Copies, 20 Cents.
\$6.50 a Year }

Better To Give Away Muscle Shoals

THE appointment of a Federal commission to determine a solution of the Muscle Shoals problem opens new opportunity for the transfer of that great industrial plant from the field of practical politics to the sphere of constructive business operation. This can be accomplished only by sale or lease to private operators, if any private interest will take it. Federal or state operation is un-American in principle and inefficient and costly in practice. Conditions to make the plant available to the country in war emergency well may be imposed; beyond that, the Federal Government should divest itself of this burden, and no Southern state or group of states should assume it.

As the commission has only the power of recommendation and may not take direct action itself, its findings must be expressed in clear and convincing fashion, and those findings, it is to be hoped, will strongly advocate transfer of the plant to private interests. So heavy has the burden become in the scales of national economics and politics that the country almost might afford to waive payment for the plant and be content with the protective conditions mentioned.

Hope that the problem will be considered solely from a business, non-political angle may be gathered in scrutiny of the commission personnel, in which agriculture, industry and engineering are well represented.

Agriculture may learn from study of the plant that it is "more or less obsolete" for fertilizer production, as the Department of Agriculture asserts, and that it can be modernized only "at an unknown cost in millions," as the President said in his message last March.

Business and industry well know that federal or state or other governmental operation of any industry on a commercial basis is inefficient for the industry, is costly to the taxpayer and becomes oppressive competition for private enterprise.

Engineering, as represented by two War Department officials, can prove that tremendous capital outlay will be necessary to make the plant effective, and that huge operating losses may well be anticipated, under any form of governmental conduct.

The groundwork for these various conclusions already has been laid; only clear presentation of the facts to the people and to Congress should be necessary to make them convincing.

Already, Government investigation has determined that \$127,000,000 in capital outlay will be necessary for hydro-electric power development of the plant at Muscle Shoals. Even a somewhat restricted transmission system will cost \$40,000,000 "for wholesale purposes only," with "a great increase" for retail distribution to households. Even should the entire capacity of 1,000,000,000 kilowatt-hours be sold to municipalities or other distributors at a private company rate of 7.2 mills, the gross annual income of \$7,200,000 would entail a loss of \$2,000,000 a year on the operators, according to Government computations.

As to agriculture, the Department of Agriculture finds not only that the Muscle Shoals fertilizer plant is obsolete, but also that "with power at even 2 mills a kilowatt-hour, with proper charges included, it could not produce the fertilizer products for which it is constructed as cheaply as these products now are being sold in the wholesale markets."

The attitude of keen industrial and business minds is presented in testimony by Theodore Swann of Birmingham before a committee of Congress; the views of Colonel Hugh L. Cooper, as waterpower expert and consulting engineer of the Wilson dam, and George J. Roberts, as a Government expert, and the withdrawal by Henry Ford of his offer for the plant.

Against the cold, irrefutable economic facts concerning Muscle Shoals, presented by engineering, agricultural and industrial experts and authorities, the arguments offered are conspicuously demagogic and

socialistic appeals, attractive in sound, but destructive in practice. Government operation "by the people and for the people" is alluring to the mass, just as it is piffle to sound thinkers. The demagogic opportunity is illustrated in a remark by a former official of the Federal Power Commission to a member of the MANUFACTURERS RECORD staff: "They don't want to settle the Muscle Shoals question in Congress, it offers too fine an opportunity to play politics." The influence of this popular, superficial appeal is indicated in a Southern newspaper, which says: "One cannot but pause in admiration at the brilliance and ability of Senator Norris' 10-year fight to have Muscle Shoals operated as a power plant by the Government."

We prefer to believe that the feeling of the South and the Southern people is expressed by another Southern newspaper, the Birmingham News:

"The News has held that the wisest disposition of Muscle Shoals would be along the lines of private utilization and development, rather than Government operation. * * * The Government should under no circumstances set itself up in business, other than where it is absolutely necessary for the Government to engage in business functions, either from the nature of the business or from conditions of emergency."

In the case of Muscle Shoals, there is neither emergency nor other factor to justify governmental operation of the plant, or its various components, by the nation or state or lesser public units.

The total chemical nitrogen production in the United States in 1930 ran to 300,000 tons, equal to more than 1,800,000 tons of nitrate of soda. Of this 300,000-ton aggregate, 140,000 tons, estimated at 350 per cent of the capacity of Muscle Shoals, is of synthetic production. The price of nitrogen in nitrate of soda is given as \$2.62, this year, compared with \$4.54 in 1919, and the average wholesale price of the six fertilizer analyses most widely used is placed at \$24.66 a ton, as against \$59 a ton 12 years ago. Muscle Shoals is not needed for fertilizer or explosives nitrogen, and "could not produce it as cheaply as it now is sold in the wholesale markets," again quoting the Department of Agriculture.

To provide power in the South are nearly 500 public utility and miscellaneous waterpower plants of 100 or more horsepower capacity, with total developed output of over 4,300,000 horsepower, or 22 per cent of the total for the country. About 250 public utility plants generate approximately 4,100,000 horsepower, or 97 per cent of the South's output and 32 per cent of the country's public utilities aggregate. Electric power production by Southern utilities in 1929 was 21,584,000,000 kilowatt-hours, or 22 per cent of the total for the United States; in the Southern total, 9,507,000,000 kilowatt-hours was produced by waterpower, or 27.4 per cent of the national aggregate of such production. Plans also have been laid for future development as demand may arise. There is no emergency call or other insistent demand for more power from Muscle Shoals, especially at a loss of \$2,000,000 a year, as computed by the Government.

Because of the huge bulk of the Muscle Shoals plant, extraordinary opportunity is open for the waste and extravagance inherent and unescapable in governmental operation of any industry on a commercial

basis. Because of the magnitude of the business enterprise, this new venture of Government into business would be an unprecedented violation of American principles, and a superlative instance of oppressive Government competition with private industry and business and finance, with consequent harmful effect upon labor.

For the material, political and social welfare of the South, above all other areas of the land, Muscle Shoals must be withdrawn from the shadow of governmental operation, federal or state. Better to give the plant away or destroy it outright, than to impose that destructive burden on the South and on the Nation.

The Sherman Law

EACH line of industry is more or less adaptable to competition, depending on the nature of its operation. In certain extreme instances unlimited competition has made for greater efficiency and more economical production, in others the same end is reached only through monopoly. The human tendency to abuse monopoly by turning it to selfish ends led to the passing of the Sherman Anti-Trust Law in 1890 in order to insure fair competition where it was natural for it to exist.

Since then, however, it apparently has not been possible, save by separate action by the Supreme Court on individual cases brought before it, to secure an interpretation of the law broad enough to meet industries' needs which arise from time to time. Many of these needs are particularly urgent in the present emergency, and their failure to admit of ready solution is due to the all-inclusive wording of the law, which allows a too general interpretation and causes unnecessary controversy about its definition. This has decidedly hindered the progress of certain industries which, if left to solve their difficulties unimpeded, would perhaps have turned toward a more monopolistic form or at least toward needed cooperative action. Thus, a course intended for industrial stabilization and a further protection of labor and the public in the avoidance of over-production has not been possible.

This development should have been encouraged; instead it was stunted by forcing unnatural competition, with the result that in many of our basic industries there is price-cutting today far below the cost of production. If this situation persists the very existence of these industries is involved. And in no way is the spirit behind the Sherman Anti-Trust Law responsible, for this law is concerned only with the combinations in business formed in restraint of trade.

A clearer understanding of the application of man-made law to industrial problems is essential for good business health, for if applied in opposition to the action of economic law an unsound condition is inevitable.

Southeast and the Farm Board

THE MANUFACTURERS RECORD has long dissented from the Federal Farm Board's attempt to artificially control prices. When it embarked upon its plan to peg prices in the face of world crop surpluses and lessened demand, and contrary to abundant evidence of the results of such attempts in other countries to stabilize crop prices, it only prolonged the inevitable liquidation which is culminating in the disastrous situation of today. With wheat selling as low as 25 cents a bushel, the reported 200,000,000 bushels of the Government's Grain Stabilization Corporation holdings hang like a two-edged sword over the heads of the grain growers.

The MANUFACTURERS RECORD is in full agreement with the Farm Board's effort to bring about cooperative action on the part of the growers in curtailing production to better balance supply with demand, to promote diversification and to develop cooperative marketing for their crops. So long as the Federal Farm Board does not engage directly in price regulation schemes and so long as it does not duplicate the work of the United States Department of Agriculture, and other governmental agencies, it can offer a service to the American farmer.

To be of greatest service however, the personnel of the Federal Farm Board should represent not only principal cash crops of the country, but the principal crop-producing areas. Wheat and the Middle West are amply represented, as well as some other crops and sections, but the Southeast—which has nearly 16 per cent of the country's crop acreage and produces over 20 per cent of the country's crop values—is not represented on the Board. This section grows a larger number of the principal crops of the country than any other equal area. For example, it produces nearly 50 per cent of the country's cotton; 86 per cent of the country's tobacco; 42 per cent of the citrus fruit; 80 per cent of the peanuts; 16 per cent of the corn; 18 per cent of the peaches, and 22 per cent of the trucking crop values of the United States. With such a large proportion of the country's principal crops, the Southeast is entitled to direct representation on the Farm Board and preferably by someone who recognizes that prices cannot be maintained artificially in the face of a surplus supply and lessened demand.

American Materials for Public Work

IN order to encourage and increase the activity of American producers, resolutions have been passed by the Texas Legislature requiring the use of American materials in all public work in the state. This action is especially timely. Elimination of all foreign competition with American-made products is not possible nor desirable. Certain foreign commodities are not available in the United States and there are

others of low price which act as a spur to American producers toward higher efficiency in order to meet this foreign competition. An element of competition is beneficial where costs and selling prices are on a fair basis, considered from the standpoint of legitimate profit to the producer under the wage scales and standard of living prevailing in this country.

However, when materials for public buildings, highways and other public work are needed, preference should be given to American-made goods rather than to imported products. Public work is paid for by the public; American labor and business, through taxes, supply the money for this public work. It is only fair that American industries should have the opportunity to supply the materials, the making of which creates employment and increases domestic activity and trade.

Since the foregoing was written, the following editorial from the Washington Post on "Jobs vs. Cheap Goods," has come to our attention:

"In this age there is no concern about producing enough of life's necessities. The question is one of distribution and consumption. Jobs which sustain the national income are more important than cheap goods. That is why the argument for purchasing all commodities where they can be obtained at the lowest price has collapsed.

"The United States can well afford to give attention to this problem. No other nation is so dependent upon a strong domestic demand for goods and services. High wages and an abundance of work are far more important to the American people than is the difference in the costs of production here and abroad. The United States can remain a great nation of consumers only so long as it affords protection to its industries and wage earners."

A Vacation

SOME of the busiest men in America find time during the heated term to take a vacation and get far away from the worries of daily affairs.

An exceedingly energetic and successful man said recently that it is his confirmed opinion it is more necessary for American business men in a time of care and anxiety to consider their bodily health than at any other time. It is a wrong idea which impels busy executives to worry and fret over conditions oftentimes beyond their control. Constructive ideas, careful planning, hard work? Yes, but at the same time thoughtful regard for the great need of keeping well and fit. The failure to do it is taking its toll in shattered nerves and impaired health. Men of affairs owe a duty to their family and friends to conserve their bodily vigor by getting the rest and change which a vacation, if it is the right kind, always brings. They return to their business in a better state of mind and better able physically to bear whatever problems may confront them, and it goes without saying that they are better able to devise new programs in the further progress of their work.

It would be well for those who think their paramount duty is to remain closely at their desks to adopt some of this practical reasoning.

Southern Road-Building

THE building of roads, streets, bridges, culverts and viaducts by Southern states, counties, districts and municipalities went forward in volume in the first six months of this year, judging from a compilation of reports of awards listed in the construction columns of the MANUFACTURERS RECORD and based on official announcements covering state highway activities, details of which appear in the following pages. Additional summaries covering state highway construction in 1931 will be published in subsequent issues.

Not only are huge sums being expended for new motor transport facilities, but increased expenditures are reported in most of the states for maintenance. For example, regular maintenance and roadway betterment work in Texas this year will necessitate an expenditure of over \$12,000,000. The North Carolina State Highway Commission has assumed control of all county roads, approximating 45,000 miles.

While state highway construction will decline in several Southern states this year as contrasted with last, due in at least one instance to failure to provide additional funds through voting of bond issues, it must be borne in mind that because of the drought situation in 1930 and the longer than normal working season, road work was pushed to completion in record volume, and many states advanced their programs so rapidly as to utilize all available revenue, including both state and federal funds. Moreover, progressive Southern states have vigorously undertaken road work over the past ten years. More recently state bond issues have been voted in Louisiana and South Carolina, permitting these states to undertake unusually ambitious road programs. Louisiana is setting the pace this year for the entire South, with awards in the first six months totalling more than \$48,800,000, and expenditures for maintenance in the first half year bring the total to \$50,000,000.

\$31,600,000 for Missouri Highways

By
T. H. CUTLER

Chief Engineer, State Highway Department,
Jefferson City

Contracts let for state highways and bridges during the first half of 1931 had a total valuation of \$14,219,000, providing for the following mileages: Concrete, 300.2; gravel, 644.3; earth grading, 125.9.

During the first half of the year construction with a value of \$15,500,000 was completed as follows: Concrete, 193.7 miles; gravel, 453.8 miles; earth grading, 789.9 miles. In the second half of 1931 the anticipated program calls for award of contracts approximating \$17,400,000. The following mileages comprise the program mapped out: Concrete, 258; gravel, 983; earth grading, 707.

Unfinished portions of 1930 contracts carried over into 1931 for completion have a total valuation of \$2,900,000.

Projects representing carry-over included the following: Concrete, 33.8 miles; gravel, 233 miles; earth grading, 42.7 miles.

Total new commitments for 1931 have an aggregate value of \$30,000,000, providing for the building of the following types: Concrete, 418 miles; gravel, 1204

miles; earth grading, 1454 miles. The anticipated program for this year calls for building approximately 2600 miles of roads of various types, with the earth graded mileage predominating and gravel surfacing a close second. A small mileage of oil treatment and bituminous retread is provided for, together with a



Bridge Crossing the Missouri River at St. Joseph, Mo.

big mileage of 10-ft., 20-ft. and 40-ft. concrete pavements. Bond proceeds, augmenting gasoline taxes, license fees, corporation filing fees and Federal aid, are from a \$75,000,000 issue of which \$17,500,000 will be sold this year, \$15,000,000 next year, and the remaining \$10,000,000 in 1933.

\$13,000,000 for New Roads in Georgia

By
M. E. Cox

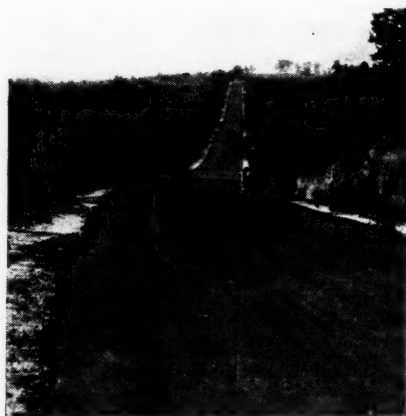
Contract Engineer,
State Highway Board of Georgia,
Atlanta

During the first six months of 1931 Georgia let contracts for paving 235 miles, grading 265 miles and for constructing 40 bridges at a cost of \$8,000,000.

The above mileage was divided into types as follows:

Type	Miles	Width	Cost
Concrete	135	20 feet	\$2,750,000
Surface Treated Lime Rock	62	21 feet	1,200,000
Asphalt Paving	38	20 feet	740,000
Grading	265	34 feet	2,920,000
40 Bridges			390,000
Total			\$8,000,000

In addition we brought over from last year approximately 70 miles of paving



Bituminous Type Road in Georgia

and 110 miles of grading which have been completed this year.

Our program for the rest of this year will probably include two more lettings aggregating \$5,000,000, one of which was let on July 15.

\$50,000,000 for Six Months in Louisiana

By

HARRY B. HENDERLITE

State Highway Engineer,
Louisiana Highway Commission,
Baton Rouge, La.

In the six months, January to July, the Louisiana Highway Commission awarded contracts for 2098 miles of highways, costing \$48,820,522. Considering types, concrete pavements with a total of 985 miles hold first place. The following table represents awards for various types of pavements for the first half of the year:

Contracts Let Jan. 1 to July 1, 1931	Type	Miles	Amount
Concrete Pavement....	985.783		\$34,944,510.80
Surface Treatment (3 Application Asph.-Oil)	568.412		5,056,661.65
Amiesite	113.034		1,663,254.63
Gravel or Shell	105.367		733,274.98
Grading and Structures (preparatory to surfacing)	314.871		1,561,092.76
Drainage	10.856		4,728,646.11
Grade Separation			83,081.52
	2,098.323		\$48,820,522.45

In the first half of the year construction projects undertaken by the Maintenance Department totaled 363 miles, costing \$833,353, bringing the total expenditures for maintenance and new construction close to \$50,000,000. A summary of maintenance projects follows:

Construction Projects by the Maintenance Department

Type	Miles	Amount
Surface Treatment	3.500	\$25,522.20
Gravel or Shell	347.432	748,613.49
Grading and Structures	12.124	17,328.47
Drainage	0.146	37,833.41
Miscellaneous		4,056.31
	363.202	\$833,353.88

Projects actually under construction and let to contract on January 1, 1931, totaled 715 miles, estimated to cost more than \$14,000,000. A recapitulation of this work follows:

Projects Under Construction January 1, 1931	Type	Miles	Amount
Concrete pavement....	319.984		\$9,347,711.99
Surface Treatment (3 application Asph.-Oil)	2.300		27,148.52
Gravel and Shell	234.502		1,990,081.43
Grading and Structures (Preparatory to surfacing)	151.670		1,253,742.79
Drainage	6.576		1,370,977.31
Miscellaneous			12,215.50
	715.032		\$14,001,877.54

On January 1, 1931, the Maintenance Department had under construction various types of projects totaling 198 miles, estimated to cost \$430,759. This work, a summary of which follows, includes only projects built exclusively by state forces, no private contracts having been let:

Construction Projects by the Maintenance Department

Type	Miles	Amount
Surface Treatment	40.000	\$160,000.00
Gravel or Shell	140.458	253,284.22
Grading and Structures	17.500	9,298.50
Drainage	0.042	4,904.67
Miscellaneous		3,272.01
	198.000	\$430,759.40

As indicative of the lower prices for construction, the Ouachita River bridge contracts are worthy of mention. About three years ago plans for this bridge were drawn, with a width of 30 feet,



Constructing Chef-Mentour New Orleans Road, a \$1,194,000 Link in the New Orleans-Baton Rouge Airline

and the cost was estimated at \$780,000. Prior to the recent award the plans were revised, increasing the width to 36 feet, and the estimated cost was \$680,000. This estimate, although lower than for the narrower bridge designed three years ago, was based on prices on several structures of about the same size undertaken in the last four months. It is interesting to note that bids received for this bridge were about \$200,000 lower than our office estimate, based on what we considered prevailing prices. The bid received on the new bridge at Shreveport was \$180,000 lower than our

office estimate, and the bid on the Alexander bridge was about \$120,000 lower than the office estimate.

We have made every effort to take advantage of the present low prices caused by general depression, by awarding and placing under construction as much work as possible. We now have approximately 35 concrete mixers in operation, causing a movement of about 100 cars of cement daily, and other materials in proportion. Within the next 30 days we expect at least 30 more mixers to be operating.

labor. Approximately 800 prisoners are now employed.

The total number of free men employed on contracts, maintenance, and engineering is approximately 7200.

North Carolina Road-Building Activity

By

L. R. AMES

State Highway Engineer,
Raleigh, N. C.

\$16,000,000 Program Under Way in West Virginia

By

A. J. MILLS

Statistician, State Road Commission of
West Virginia, Charleston

From January 1 to July 1 of this year, we placed the following mileages under contract:

Concrete, 89.93; bituminous macadam, 91.66; stone base, 10.45; gravel, shale, etc., 82.93; grading and draining, 64.21; surface treatment, 264.00; wire rope guard rail, 1,152,600 feet. Also 18 bridges, of greater than 20-foot span. The total estimated cost of this work, including contract price and engineering, is \$6,903,236.

We still have available for new contracts to be let in 1931, approximately \$5,000,000.

We are expending for maintenance this season, approximately \$3,500,000.

To pay for work carried over from last year we had a balance at the beginning of the year of \$5,740,114. This was to cover the cost of the following mileages carried over:

Concrete, 39.18; bituminous macadam, 3.40; gravel, 7.90; shale, 19.70; stone base, 5.00; grading and draining, 142.00. Also seven bridges.

Work completed to July 1 included 39.12 miles of concrete; 9.3 of bituminous macadam; 28.92 of gravel, shale, etc.; 16.58 of grading and draining.

The legislature, at its 1931 session, authorized the reissue and sale of \$10,000,000 of state road bonds as outstanding bonds of the same amount are retired. About \$5,000,000 of the proceeds

of these reissued bonds will be available for use in 1932 and the remainder in 1933 and 1934.

The legislature also passed a new traffic law, raising the open-country speed limit to 45 miles an hour. The previous limit was 35. The 45-mile speed is permissible, however, only when conditions are such as to make it "reasonable and prudent."

In addition to work under contract, we have under way some 69 miles of stone base being constructed with prison

Since January 1 the following work has been awarded to contract:

Type	Miles	Cost
Concrete, 16 and 18 foot width	157	\$4,457,324
Concrete Shoulders	32	263,205
Asphalt	107	1,574,918
Topsoil, Sand Clay	86	543,770
Traffic Bound Macadam	26	158,713
Grading	35.9	252,127
Total	443.9	\$7,250,147
Bridges		\$1,008,523

There was carried over January 1 from last year's work approximately:

Type	Miles	Cost
Concrete	12.4	\$279,612
Asphalt	3.2	61,192
Gravel	13.6	133,544
Topsoil, Sand Clay	5.9	23,305
Graded Roads	33.8	172,728
Traffic Bound Macadam	1.9	10,741

Cost \$681,122

The total cost of bridges uncompleted carried over from last year amounted to \$549,616.

Of all the total work let this year, on July 1 there remained uncompleted the following:

Type	Miles	Cost
Concrete	67.3	\$1,522,820
Asphalt	30.3	422,362
Gravel
Topsoil, Sand Clay	57.3	318,121
Graded roads	24.4	183,292

Cost, approximately \$2,446,595

The bridge work that remained uncompleted July 1 amounted to \$653,843. All this work should be completed within the next six months.

Since January 1 there have been authorized 590 miles of surface treatment of topsoil, sand clay and gravel, the cost of which will total \$1,042,028.

The 1931 General Assembly of the state enacted a law whereby the State Highway Commission assumed control of all of the county roads in the state which total approximately 45,000 miles. A maintenance organization was established as of July 1, in which the state was divided into five maintenance divisions, each division subdivided into five districts, with assistants necessary to inaugurate the maintenance program.



Bituminous Macadam Highway in Morgan
County, West Virginia

This large mileage of county roads was divided into sections of 100 miles each. These sections will be placed in charge of a foreman and he will be equipped with trucks, road machines, and necessary small tools properly to maintain and keep each mile of road in passable condition. At the same time control of all of the county convicts was assumed by the State Highway Commission.

North Carolina has inaugurated a movement, the first in the Union, in assuming control of maintenance of all county roads in the state, which in addition to the 9000 miles on the State System makes a total of 54,000 miles of roads being maintained at present at an estimated annual expenditure of \$10,000,000.

mately \$4,000,000 for maintenance of the State Highway System, making a total of \$10,000,000 to be spent on upkeep of the roads in this state. Funds for construction are derived from the remaining portion of the gas tax fund, and revenue received from sale of license tags after expense of administration and current bond indebtedness has been deducted.

Under the new law the State Highway Commission is composed of the chairman and six members at large. Instead of available funds being appropriated on the area, population and mileage basis, all available money for construction purposes will be prorated throughout the state in accord with the volume and intensity of traffic. In the past the district engineers, of which there were nine in

that will be available for new construction for the next six months. However, there will be sufficient money to equal Federal Aid funds so that the construction program will be carried on in the future as in the past.

\$10,000,000 for Maryland Highways

By
H. D. WILLIAR, JR.

Chief Engineer, State Roads Commission
Baltimore, Md.



Northampton-Halifax Bridge Across Roanoke River in North Carolina

The source of revenue for this tremendous system will be derived from a 6-cent gas tax. Previous to the last General Assembly the state gas tax was 5 cents, 1 cent of which the counties received for maintenance of the county systems. This tax was increased to 6 cents per gallon, 2 cents of which was reserved for expenditure on county road maintenance. It is estimated that \$6,000,000 will be required for maintenance of the county system, to be obtained by the 2-cent tax amounting to \$4,000,000, supplemented by an additional \$2,000,000 transferred from the regular State Highway funds. There will be required, according to past expenditures, approxi-

number, were held responsible for all construction and maintenance operations within the limits of each district. Because of establishment of the new maintenance organization, the construction department was reorganized and the state divided into three sections, with an engineer responsible for all construction work within the limits of each division.

In January of this year it was estimated there would be available approximately \$5,000,000 for new construction, but later this was increased by \$1,926,775 because of emergency Federal Aid. Other additional funds also have been added.

It is difficult to estimate the amount

The Maryland State Roads Commission had available for this year's work the sum of approximately \$10,000,000 made up as follows:

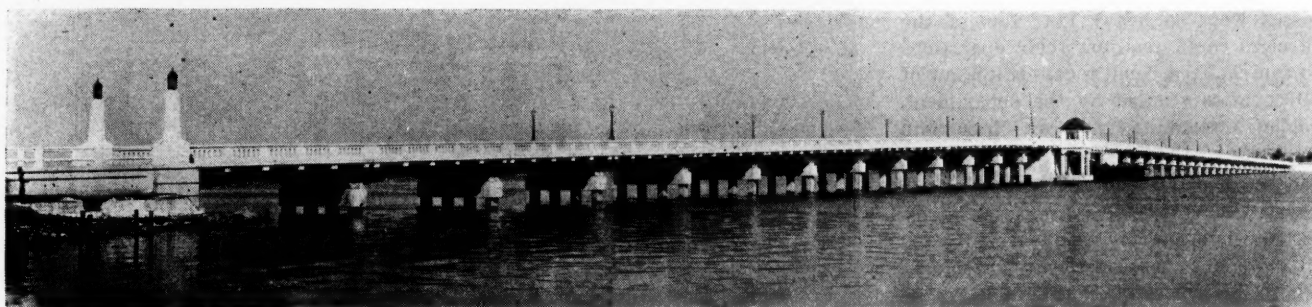
For building new roads.....\$5,720,000
For elimination of railroad grade crossings 1,764,000
For construction and reconstruction of bridges..... 1,160,000
For widening and reconstruction of existing roads 1,355,000

Of this amount, approximately \$3,700,000 was put under contract by June 30, as follows:

Number	Miles	Type	Total Cost
	55.08	Concrete	\$1,655,190.58
	23.75	Gravel	214,493.35
	23.73	Macadam	535,076.16
	9.73	Grading	67,167.06
	1.45	Sheet Asphalt..	166,053.22
	2.99	Bit. Conc. Resurfacing	26,716.80
2		Grade Eliminations	209,008.27
14		Bridges	187,646.01
	47.96	Concrete Shoulders	614,044.85
1		Ocean Jetty....	3,022.25
1		Concrete Patch Work	6,856.00

In addition, contracts totaling approximately \$750,000, which were awarded in 1930, have been completed in the first half of 1931, as follows:

Number	Miles	Type	Total Cost
	1.00	Sheet Asphalt..	\$151,275.75
	7.53	Gravel	48,804.75
	0.59	Pen. Macadam..	23,833.45
2		Grade Eliminations	245,253.90
10		Bridges	280,512.94



New Bridge Across Chester River at Chestertown, Md.

Old Piedmont Cotton Belt

SPECIALIZED cotton growing on large farms in Texas and Oklahoma has put a heavy handicap on the old cotton belt of the South where boll weevil infestation is heavy. The United States Department of Agriculture recently completed a study of the Old Plantation Piedmont Cotton Belt, which shows some of the factors responsible for the decline of farm areas in the Piedmont since the World War. The study also devotes attention to the efforts, often moderately successful,

is three or four counties in width, across South Carolina and Georgia, and includes a few counties of North Carolina

By

O. M. JOHNSON

Agricultural Economist,
Bureau of Agricultural Economics,
U. S. Department of Agriculture,
Washington

farmed profitably at prices paid in 1917, 1918, and 1919. Since then boll weevil infestation has made cotton growing generally unprofitable.

Nevertheless many of the residents believe the resulting farm abandonment will not be more permanent than were similar movements in the past. Much land in the region has been in and out of cultivation more than once. Some farmers are still raising cotton at a profit. One grower in Wilkes County, Georgia, has made money consistently since 1920 on his 350-acre farm, paying off debts with profits earned in years when most of his neighbors went deeper in debt. But this man follows sound methods for controlling the boll weevil.

Many land owners and farmers in the Piedmont Belt remain cotton-minded, hoping by careful tillage to resist the pressure of Western competition, the disadvantages of weevil infestation and labor difficulties. Some farmers seem able to limit weevil damage amid general negligence by their less enterprising neighbors. For the most part, however, farmers diversify in adjusting themselves to their trying situation.

Some owners of large holdings encourage diversified agriculture by furnishing dairy cows, poultry and hogs to tenants on easy terms. It is understandable that farms arranged for stock production in conjunction with cotton have paid better since 1920 than farms on which cotton has been the only money crop. Diversified farming in the area does not usually return as large an in-



Cotton, Following a Cover Crop of Austrian Winter Peas, in Chester County, S. C.

which the enterprising farmers are making to readjust their business.

Seldom has so large an agricultural area in the United States undergone so great a change in a short time. The principal causes were the low prices of all farm products and increased boll weevil infestation. Prior to 1920, the Old Plantation Piedmont was relatively free from weevil. Thereafter, however, the infestation increased rapidly, and losses were so heavy that few of the farmers could readjust their operations to the changed conditions. In 28 out of 59 counties studied by the department, cotton acreage in 1924 was less than half what it had been in 1919.

Some counties in the group of 59 covered in the study are fairly prosperous, but most of them are involved in difficult readjustment problems. There is naturally considerable variation, just as there is among the individual farmers. The area in question

and a few in Alabama. Though much of the land had been near the margin whenever cotton prices were low, it was



Using Grain Drill to Sidedress Cotton With Nitrate of Soda in Clarke County, Ga.

come as the farmers were able to secure from cotton prior to invasion of the boll weevil, yet it is larger than could be obtained from cotton under conditions now prevailing. Consequently more crops like corn, small grain, forage and peanuts are grown and more attention is paid to livestock.

Dairy and poultry products have acquired a new significance. Poultry is sometimes pooled for shipment in car-load lots, and cream stations have been opened where it is possible to attract a sufficient supply. Many farmers have met emergency needs by selling timber. Peanuts as a cash crop have not proved very satisfactory, and Piedmont farmers have not made any general attempt to produce truck crops for the Northern markets. In some counties the pimento pepper has developed as a cash crop and peaches and watermelons are of some significance in a few localities. Some farmers supply truck crops, poultry, eggs, and dairy products to nearby mill towns, but this market is restricted by the need and inclination of many mill-town families to do backyard gardening and poultry raising to supplement their wages.

In this Piedmont area, as in other agricultural districts affected by changing competitive conditions, a twofold need is evident. First, land which cannot be profitably farmed should be put to other uses. Where a locality labors under hopeless handicaps, it is a service to the farmers concerned to acquaint them



Cultivating Cotton With a Two-Horse Riding Cultivator and With One-Horse Walking Cultivators, in Clarke County, Georgia

with the fact. This may spare them needless distress and may prompt them to seek other opportunities without loss of time. Moreover, the withdrawal of submarginal land from cultivation helps to establish a better balance between supply and demand for agriculture as a whole. Second, readjustment possibilities should be tested and results made widely known. Blind experimentation by each farmer without knowledge of what others are doing is clearly wasteful. The experience of the more successful should be made available as a guide

to the others. This experience should be supplemented by scientific analyses of local farm problems.

Much valuable research is being carried on and the agricultural extension forces are doing their best to help, but funds available have been altogether inadequate in view of the size of the problem and the difficulties involved. A carefully worked out program for this area is needed if the farm families affected are to progress toward a readjusted agriculture which promises some stability.

Conference of Smaller Industries

The Conference of Smaller Industries, to be held at Silver Bay, Lake George, N. Y., August 10-15 "promises to be one of the most significant industrial developments of the past decade," according to Harold F. Browne, of the National Industrial Conference Board and chairman of the conference organizing committee.

Mr. Browne states that the conference, is intended "to provide an opportunity for executives of smaller plants to meet and study jointly a number of important industrial problems as they affect operation in the smaller units of industry, and all addresses and discussions will be given from that point of view."

There are 193,562 manufacturing plants in the United States that normally employ 500 laborers or less, as compared with 2747 establishments that employ more than 500, and yet, "industrial problems are almost always discussed from the angle of the large plant, notwithstanding the fact that more than 60 per

cent of all industrial labor in the United States is employed by the smaller plants."

\$1,000,000 Bonds to Speed Improvements

Atlanta, Ga.—The borough planning commission is considering a proposal by Robert R. Otis, chairman, for a bond issue of \$1,000,000 which would provide a revolving fund for pushing improvement projects in Atlanta, thereby relieving to an extent the unemployment situation in the city, and to stabilize and enhance property values. It is estimated that, under an assessment provision in the proposal, \$5,000,000 worth of work can be done on the fund and many needed improvements pushed to immediate completion. The plan contemplates the retention of a planning engineer as an adviser, to work in conjunction with Raymond W. Torras, engineer of the commission.

Extend Building Bids Date

Baton Rouge, La.—The date of receiving bids for construction of a new field house and recreation center and a new fine arts building for the Louisiana State University and Agricultural and Mechanical College here has been extended from July 21 to July 30. Separate proposals will be received on general contract, mechanical equipment, electrical work and miscellaneous construction. Weiss, Dreyfous & Seiferth, Inc., New Orleans, are the architects.

\$2,490,000 Houston Bonds Sold

Houston, Tex.—Bonds in the amount of \$2,490,000 have been sold by the City of Houston to a banking syndicate headed by Halsey, Stuart & Co., Inc., New York, at a price of 101.621. Of the total, \$2,410,000 will carry an interest rate of 4½ per cent, while \$80,000 of the bonds will be 5s. They will be used for varied municipal improvements.

Building *for* Industrial Efficiency

By

COL. WILLIAM A. STARRETT

New York

ONE who is in a position to observe nation-wide activities and has an analytical viewpoint can see, even in these times, the keen demand for building of certain kinds. Those who regard the present situation through dark glasses do not realize that there is, right at the present time, a considerable amount of renting, particularly in strategically located structures and new buildings. For instance, reports from the best located and newest buildings in the midtown district of New York City are gratifying and, indeed, surprising in view of the apathy that colors all consideration of real estate investment.

Many people seem to have the notion that real estate renting and intensive metropolitan building rise and fall on some horizontal scale affecting all classes of buildings, which leads to the erroneous impression that all metropolitan real estate is a precarious financial risk. Metropolitan building is unlike many other types of industry which, having lost their sales in any given month, or year, have lost them forever. Building demand is more like a steady stream, which, if stopped or interrupted, is simply dammed up awaiting more favorable conditions, but always having behind it the economic urge of ever-increasing comforts and facilities that good building affords.

True, some of the less modern and perhaps remotely located buildings in our big cities are suffering. They have always suffered. Hence, the constant tearing down and better building that is observed in our larger cities. It is only because of the depression that the emphasis is placed on this perpetual transition of vacancy, now perhaps aggravated by the general business situation. Similarly, some of our large cities were admittedly overbuilt even before the depression set in. There must, of course, be a saturation point in every line of production, and here again all building is grouped and becomes a conspicuous target for criticism.

There are, however, many indications that those who can afford the long vision are contemplating construction as an economic necessity in terms never heretofore recognized. When we realize that the office building and the highly developed city residential comforts are in fact instruments of production, the necessity for the continued building and improvement of these facilities is ap-

Colonel Starrett is president of the Starrett Corporation, New York, holding company for the Starrett building and building investment interests, a name identified with the construction of many of the country's important buildings, including the world's tallest, the Empire State, the 71-story Bank of Manhattan building, the New York Life Insurance building, the Carew Tower in Cincinnati, world's first multiple-use building, and many others. In this article Colonel Starrett touches on current building and rental conditions and points out the need of industry for efficient building.

parent. More particularly is this true of office buildings and economical commercial structures, but, in a measure, the idea of comfortable living for important executives, proximity to good transportation and facility of personal movement are served by new construction.

Office buildings and intensive commercial buildings, with their modern equipment of ventilation, good light and air, facility and economy of arrangement, swift elevator service, telephone extensions, instantaneous interior communication of all sorts, are highly developed

instruments of production and the increasing demand for them will coincide with the increasing efficiency of business and managerial administration. The split-second value of time of important executives and organization members is inestimable and only through the most modern conveniences of habitation can it be brought to its fullest development.

Improvement of existing manufacturing and distributing methods is constantly in the eyes of those branches of industry which require a sharper vision to meet present conditions.

The construction of large country estates, luxurious and remote places of amusement and recreation — such activities adjust themselves to prosperous times and are not being considered at present. The mediocre or makeshift structures that sometimes accompany boom times may be relegated profitably to the field of economic waste, never to be taken up again, we hope. But the wide recognition that office buildings and other forms of metropolitan structures are necessary tools of industrial efficiency is proven by the activities in renting and planning that continue even through the lowest sag of the depression.

100-Mile Gas Line Contracts

Covington, Tenn.—Pipe for the main line of the 100-mile pipe line being constructed in Western Tennessee for the Memphis Natural Gas Co., Memphis, is being supplied by the Republic Steel Corporation, Youngstown, Ohio; couplings by the S. R. Dresser Manufacturing Co., Bradford, Pa., and gate valves and fittings for use on the main line by the Walworth Company, New York City. The Ford, Bacon & Davis Construction Corporation, New York and Dallas, is handling the general contract, while a subcontract has been awarded to A. M. Lockett & Company, Ltd., New Orleans, La., for the construction of a compressor station in Memphis. Clearing the right-of-way has been sublet to C. S. Seal & Son, Sicily Island, La., and pipe stringing to H. H. Leonard, Amarillo, Tex. Ralph E. Davis, Inc., Pittsburgh, Pa., is the engineer for the project and H. A. B. Prindle, Covington, is the resident engineer for the general contractors.

Natural Gas Situation in Alabama

By

F. J. ALMGREN

Assistant Engineer,
Alabama Public Service Commission*

WITHIN recent years the gas industry has been rejuvenated in a number of sections of this country. One of the main reasons for this has been the discovery of natural gas fields furnishing gas in sufficient quantities to permit the financing, construction and operation of pipe lines hundreds of miles in length to bring this product to larger cities in the country.

With the introduction of natural gas there is always a question as to the benefits the consumer and utility will receive. It amounts, in most cases, to an almost complete upheaval of the utilities' otherwise uniform existence. People who before have taken very little interest in gas, immediately appear on the horizon with their divergent views. It then becomes the duty of the regulatory body to seek the facts and present them in a clear light. Thus far, neither the utilities nor the consumers have taken issue with any of the orders our commission has prescribed in these change-overs.

In the State of Alabama, during the past two years, seven of the twelve of our then existing gas utilities have changed from manufactured to natural gas. New gas service has been brought in to seven towns. For the major part, the subject matter of this paper has been obtained from the experience of the Alabama Public Service Commission in dealing with the consumers and utilities that have been affected by this change-over. Our experience and hearings, held in connection with the advent of natural gas, have ranged from an attempt to regulate pipe line companies to fixing the standards and rates for service to communities of less than fifty consumers.

Consolidated Rates

Before the advent of natural gas we had in Alabama a different rate for prac-

tically every manufactured gas utility operating in the state. This condition brought about, from time to time, unrest in the various cities of similar size in regard to the prices they were paying for gas. With the advent of the natural gas pipe line company, which had contracted with holding companies controlling the major plants in our state, it was first possible to consolidate the rate questions for groups of the towns served by the respective utilities. The first major benefit both for our commission and the consumer was the placing in effect of a uniform system of natural gas rates in our state. These rates resulted in lowering the price of gas, when compared on a heat unit basis, for every domestic consumer on the systems changed over, with the exception of some few minimum users.

This rate structure and lowering of price have, to a certain extent, and will more so in the future, result in an increased field of use for domestic consumers. This is especially true in smaller communities. We have experienced fewer complaints from the natural gas systems, due to the uniformity of gas supply, heating value and rates. One pipe line company supplies all natural gas sold in Alabama towns, with one exception.

Every commercial consumer affected has experienced a substantial reduction in cost of gas. Under the natural gas rates, the field of use for the present customers has been increased and the utility has been enabled to secure a good class of additional business. We designed our natural gas domestic rates to furnish house-heating service for the

domestic consumer and the utilities have been able to secure and retain house heating jobs in sufficient quantities to make it a desirable load. The advent of natural gas has made it possible for utilities to connect the desired and necessary industrial loads in the smaller towns of our state. Without this load, no natural gas utility or supply line can exist and prosper under the present schedule of domestic rates.

Heating Value

No gas rate is defined sufficiently until the heating value of the gas to be sold is made a part of the rate. In prescribing natural gas rates, it has been possible to establish uniform state-wide heating value. This is due primarily to the fact that at the time the rates were made it was contemplated that one pipe line would furnish all the gas in this state. In addition, with a pipe line it is easy to check the heating value of the various points on the pipe line, eliminating any cause of complaint.

Service

There has been a broadened field of use, an increased availability, and gas is now available for anyone who has need of heat. One disadvantage of natural gas, from a service standpoint, is the lack of odor and its attending danger if leaks occur. There has been placed on the market, however, a means of giving natural gas an odor.

In every instance, natural gas has resulted in lower rates, and heating value complaints have disappeared.

The Utility

As a rule, the city officials usually select the cheapest natural gas rates in the country to compare with the proposed rates for natural gas service. In addition to the usual amount of trouble during the later change-overs in our state, a new gas field was brought in at

*Extracts from paper read before Washington meeting of Utility Commission Engineers.

Jackson, Miss., and the local government there put into effect a natural gas domestic rate with a one dollar minimum, and gas selling at the highest step, 30 cents per thousand, with a ten per cent discount. This condition caused concern in other municipalities, and additional work in getting all interests satisfied on the rate question.

Supply

In all contracts made, the gate cost to the operating utility for gas sold for domestic use will be increased at different intervals throughout the term of the contract. The price of industrial gas will not be affected, as this is sold on a percentage basis of the utility sale price. This means that the companies will not be able to lower domestic rates until such time as a sufficient industrial and commercial business has been connected and sold to counteract this con-

dition. At present, no natural gas utility is earning in excess of or equivalent to a fair return. Where natural gas is brought into a town that previously had no gas system, the utility has had to suffer from two major conditions. The first is the building up of a domestic load, and the second, obtaining the necessary commercial and industrial loads in order to make the operation a profitable one. This business is not available to any large extent in the smaller communities of our state, to which this new service has been introduced.

The opportunity and time has not been available to extend the scope of this discussion to conditions in other states. It may be that conditions we have found in Alabama may not exist in the same particulars in other jurisdictions. I have only presented, in a general way, the gas situation and our experience in change-overs in Alabama.

\$1,000,000 Standard Oil Building

General contract has been awarded by the Standard Oil Company of New Jersey to James Stewart & Co., Inc., New York, to erect a new \$1,000,000 building in Washington, D. C., to house Standard Oil headquarters in that city. The building will be 6 stories, fronting 335 feet on B street and 71 feet on Second and Third streets. A service station will occupy the ground floor, the second floor will be devoted to offices of the company, the third, fourth and fifth floors rented as office space, and the sixth floor used for a garage. Construction will be of steel and concrete. Ground floor will afford a clear space with no columns, and from the front of the structure there will be six entrance drives, with another entrance drive off Second street and exit drives into Third street and an alley.

Gasoline will be sold from 24 pumps

on the ground level floor, which will also contain auto laundry and lubrication departments equipped with the Rosebrook system developed by Guy Lynn Rosebrook, supervising architect of Standard Oil. Automobiles will be taken to the basement or the sixth floor by two elevators. Four rest rooms will be located on the ground floor, another on the mezzanine. Decorations for the ground floor will be in black marble to a height of 8 feet, with white marble above. All lights will be concealed. It is estimated that machinery to be installed in the basement will cost about \$100,000. Lubrication and laundry departments will be able to handle about 300 cars daily, while storage space on the top floor will be sufficient for 100 cars. Clyde N. and Nelson Friz, Baltimore, are the architects.



Service Station and Office Building to Be Erected in Washington

Southwest Business Improves

By M. H. CAHILL, chairman of the Board of Directors and President, Missouri-Kansas-Texas Lines, St. Louis.

Business in the Southwest is appreciably more active than it was earlier in the year. An abundant wheat harvest, with splendid prospects for production of cotton and other spring crops, is stimulating seasonal improvement in business which is being reflected in carloadings and railroad revenues.

Agreement is general in business circles that we have experienced the worst of the current commercial depression, and that we may now safely look ahead with confidence that the uptrend in business activity is more than seasonal. Low prices for most of our principal income commodities in the Southwest, of course, may interfere with rapid recovery of normal business momentum, and we are dependent to some degree on the rate of improvement in the country as a whole. But, so far as the Southwest is concerned, the outlook immediately ahead seems better than 12 months ago.

There is general anticipation that recent developments in the international field will improve our situation with respect to export disposition of the great staple products of the Southwest and that the acute pains of price readjustment are behind us.

Employment in the Southwest is increasing, and even though this improvement be in some measure seasonal, we are certainly in the recovery stage, making progress and in condition to respond vigorously to every opportunity improving conditions may afford.

Business news from the Southwest should grow better steadily. The country may depend upon it that it has heard the worst of the bad news from this section.

Wood Industries Convention

In its first organization gathering in the South, the Wood Industries division of the American Society of Mechanical Engineers will hold its sixth national meeting on October 15 and 16, at Winston-Salem, N. C. The program will include four conferences on management and engineering problems in woodworking, with an educational exhibit and commercial displays. Chester L. Babcock, 29 West Thirty-ninth street, New York, is secretary of the division.

\$750,000 Transmission Line in Virginia

THE Virginia Electric & Power Company, Richmond, has completed at a cost of approximately \$750,000 a 56-mile tie line between Petersburg, Va., and Roanoke Rapids, N. C., designed to transmit electric power at 110,000 volts. This line was designed and constructed by Stone & Webster Engineering Corporation, New York and Boston, and employs the latest principles of wood insulation and overhead static wire protection to minimize interruptions to service due to lightning storms.

The standard structure consists of two 55-foot poles supporting one 6-inch by

By

H. V. INGERSOLL

Stone & Webster Engineering Corporation

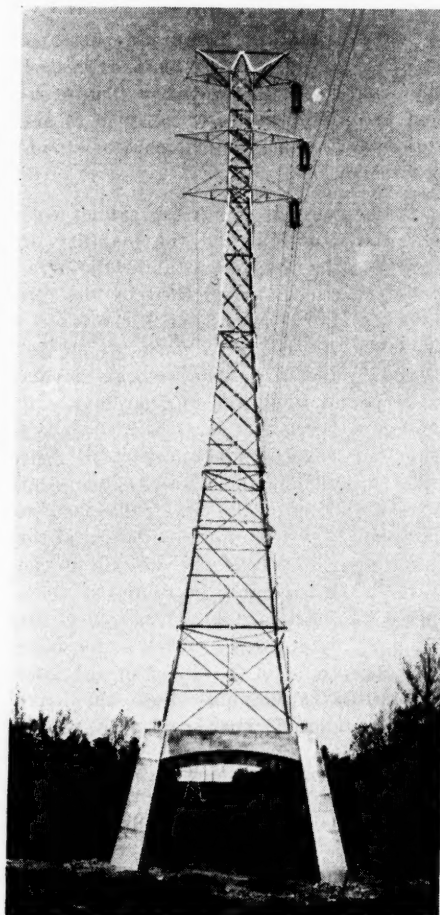
ning by two ½-inch steel cables connected to ground at each structure. The average span length is 550 feet.

A feature of the structure is the use of special hardware to minimize the danger of the poles or cross-arms being shattered by direct lightning strokes. Each attachment of the ground wire and insulators is made to a steel band around the wood which eliminates any metallic penetration into the heart of the wood. As an added precaution to hold the cross-arm in position in the event it becomes damaged, the arm is supported at each pole by a heavy steel bracket. The guy is insulated from ground with a wood insulator consisting of a 3-inch by 4-inch by 10-foot timber, protected at each end with double arcing horns.

Construction of the line involved the working out of many engineering details and considerable temporary construction. Where it crosses the Roanoke River a 2900-foot transmission line span, consisting of three steel towers, one 140-foot suspension tower, and two 110-foot anchor towers, was built. At this point it was necessary to construct five temporary suspension bridges from island to island in the rapids, to a suspension tower located in the middle of the river. Moreover, an 800-foot pipeline had to be built to the center of the river suspension tower for use in pouring the concrete foundation. Seven hundred acres of right-of-way 150 feet wide were cleared of brush and timber. About 100 men were transported to the line daily, and roads as much as half a mile long were cut from the main highway through the woods to the right-of-way. The line required the use of 600,000 pounds of copper and 250,000 pounds of steel wire, 425 tons in all.

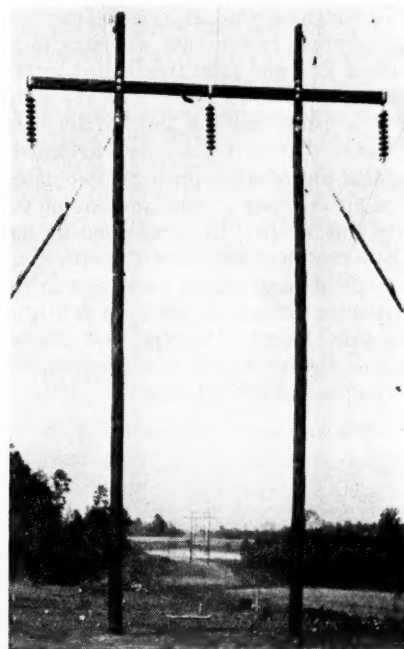
The line traverses typical rolling Virginia country, in this section quite heavily wooded. In clearing the right-of-way there were no trees left standing

which in falling would come in contact with the wires. All construction work was done by the Stone & Webster Engineering Corporation, with exception of clearing the right-of-way, which was contracted for by L. A. McKenney, Woodford, Va., and the hauling and distribu-



175-Foot Suspension Tower at the Roanoke River Crossing

8-inch by 32-foot cross-arm, all timber being creosoted Southern yellow pine. The three conductors are No. 4/0 hard-drawn copper cables shielded from light-



Tangent Frame With Two Guys

tion of poles, contracted for by Fleming & Robertson, Jamesville, N. C. The entire line was completed in four months' time. Following is a list of manufacturers of the principal equipment used:

Copper conduction—American Electrical Works, Phillipsdale, R. I.

Steel ground wire and earthing wire—Indiana Steel & Wire Co., Muncie, Ind.

Ground wire and conductor, clamps and insulator hardware—Locke Insulator Corp., Baltimore, Md.

Porcelain insulators—Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

Creosoted Southern yellow pine poles and cross-arms—Carolina Wood Preserving Co., Charleston, S. C.

Splicing sleeves for copper and steel cables—Memco Engineering & Mfg. Co., Long Island City, N. Y.

Ground wire down lead clamps—Delta Star Electric Co., Chicago

Special cross-arm hardware—General Electric Supply Corp., Bridgeport, Conn.

Wood for wood insulators—Ayer & Lord Tie Co., Chicago

Wood insulator and pole hardware—Hubbard & Co., Pittsburgh, Pa.

Steel towers—International Derrick & Equipment Co., Columbus, Ohio.

Sell Cotton Net Weight

SINCE cotton fiber and its products have moved in trade channels throughout the world for nearly two centuries there is little cause for wonderment when one finds that many of the commercial customs and trade practices are obviously obsolete and unnecessarily wasteful.

One of our most wasteful practices in handling the American crop is that of computing the price of cotton on the gross weight of the bale. It follows that the covering of the bale which is inexpensive jute and steel ties, called by the trade "tare," costs the buyer the same price a pound as the lint in the bale. To protect himself the buyer habitually adjusts his offering price in accordance with his estimate of what the tare on the bale will weigh. In turn, when he has a bale that does not carry the maximum amount of tare weight, permitted in the particular market to which he is to ship the bale, he adds bagging and patches to that already on the bale when he has it compressed for shipment.

Years ago a plan was adopted by the English shippers under which Egyptian and Indian cotton is sold on the basis of the net weight of the fibre, with the result that those growths arrive at the mills in excellent condition and weight claims are comparatively uncommon. In contrast with the neat appearance of the Egyptian and Indian bales, the American bale is looked upon as a tramp in every port that handles cotton. It can readily be recognized by its tattered appearance, with lint protruding out of half patched sample holes in the covering, and with a tie band hanging on loosely or conspicuous by its absence. A record of the travel of the bale from the farm to the mill yard would likely show that it had been compressed and recompressed, patched and repatched, sampled no less than a half dozen times and "turned out" for weighing at warehouses even more times than it was sampled.

Demand for improvement in the manner in which the American crop is handled resulted in the appropriation by Congress, in 1913, of funds for the Department of Agriculture "to investigate the ginning, baling, compressing, warehousing, handling, and classification of cotton," with a view to correcting the

unhealthy condition. And in May, 1925, a meeting was held in Washington of outstandingly able representatives of the various interests in the cotton industry to review the same problem. The writer served as secretary of this meeting.

It was brought out clearly that the practices responsible for the greater part of the waste in cotton handling are: Gin damage, excessive sampling and re-sampling, irregularity in the weight and serviceability of bale coverings (known as the tare problem), the sale of cotton on gross weight rather than on net weight, weather damage to baled cotton and the unsatisfactory methods used to mark and identify the bale. Fully half of these forms of waste were found to occur at the gin or result from methods used at the gin in preparing the bale for market.

Loss from wasteful and irregular handling practices is estimated to cost the cotton industry not less than five per cent of the farm value of the cotton crop or approximately \$50,000,000 annually.

It was the finding of the meeting that the most serious problem was that of tare irregularity and the belief was expressed that with the correction of the tare problem others could be attacked more effectively. The services of the Department of Agriculture were enlisted in undertaking the task of correcting the situation with the result that a project was initiated to standardize tare.

Since that time studies have been made of the various tare practices in both domestic and foreign markets; of the legislation that has been passed by the several Cotton States with a view to correcting their own tare problems, and of the tare rules of the numerous trade associations and exchanges. Tests have been made of materials used to cover the American crop both as to weight and serviceability. An investigation was also made of the possibility of utilizing a light weight standard patch for covering sample holes at the time of compression.

That the undertaking has the support of the cotton industry is evidenced by the following excerpt from the address of George A. Sloan, president of the Cotton Textile Institute, before the meeting of the American Cotton Shippers Association held in New Orleans last April:

"Net weight sale for cotton has won

the approval of leading growers, shippers, dealers and manufacturers the nation over. Prominent members of Congress and Government officials have advocated this change. It is a well known fact that the American farmers suffer an actual loss through the 6 per cent deduction for tare taken by foreign buyers. Moreover, they, as domestic consumers, have complained constantly about the damage occasioned to cotton by the present haphazard and unsightly method of baling. By determination to sell cotton on net weight basis and using cotton fabric for bale covering the farmer can increase greatly the consumption of cotton and at the same time afford profitable occupation for many mills and their employees."

Mr. Sloan made the further statement that two hundred thousand bales of our cotton would be required to cover the American crop the first year the plan is adopted and one hundred and twenty thousand bales annually thereafter, since a part of the bagging can be re woven for use a second time.

Mr. Sloan's statement is but one evidence of the wholehearted manner in which the industry has expressed its recognition of the need for standardizing tare and making possible the sale of cotton on net weight. Cotton shippers and associations of growers have expressed the same thought repeatedly. The problem before the industry today is to get into operation a practical plan of standardization.

Trade rules, it is agreed, cannot correct the situation, and the inability of the Cotton States to regulate the irregular practices is evidenced by the following gist of laws of some of the states: Alabama decrees tare must weigh between 18 and 21 pounds, Georgia favors a 24 pound limit and further makes it unlawful for a merchant to deduct any sum for bagging and ties when their total weight does not exceed 6 per cent of the weight of the bales; Texas does not specify weight for tare but requires the ginner to stamp the weight of the tare on the bale, and the compress to replace the mark if it is obliterated at the time of compression. Other states have varying laws but the effect of the laws is hardly noticeable since they are largely ignored when cotton is ginned or sold.

There is no question but that the problem is national in scope and the corrective must be national in application. Those most familiar with it feel that standards must first be agreed upon embracing the several kinds of bagging used to cover the crop, including jute bagging, sugar bagging and cotton duck, and then Federal legislation, patterned after the Federal Warehouse Act, must be enacted, the Act to require the gins to wrap, mark, and handle baled cotton in the uniform manner as prescribed therein. The compress would also be

required to observe the approved practices as set out in the law.

Three standards of bale covering would be provided for: (a) loose woven jute bagging to have a weight of 12 pounds (six yards of two pound bagging); (b) sugar bagging to have a weight of nine pounds (six yards of one and one-half pound bagging); and (c) cotton duck to have a weight of four pounds (six yards of duck, width and requisite strength to be found by test).

Ties can be readily standardized at nine pounds since the length and number of ties vary with the density of the compression of the bale varying from six ties weighing one and a half pounds each, used on a flat bale at the gin, to nine ties weighing one pound used on the bales compressed to high density; in the latter case the ends of the longer ties are cut off.

Under this standardization plan the ginner would have the choice of using either of the three materials for covering the bale but would be responsible for using the proper weight of the material

he chose to use in each particular case.

A sealed gin tag, similar to the bag used in connection with the certification of cotton for delivery on the future exchanges carrying the license number of the gin, address, bale number, gross weight, weight of tare and net weight of the bale, could be fastened to the bagging where it would not be lost or hidden at the time of compression. By the use of such a tag the ginner could be held responsible for failure to handle the bale properly.

A necessary part of the standardization plan would be the adoption of a standard patch to be used to cover sample holes at the time of compression. Such a patch is available weighing three pounds and when two patches are required the standard tare of the bale would naturally be increased by six pounds.

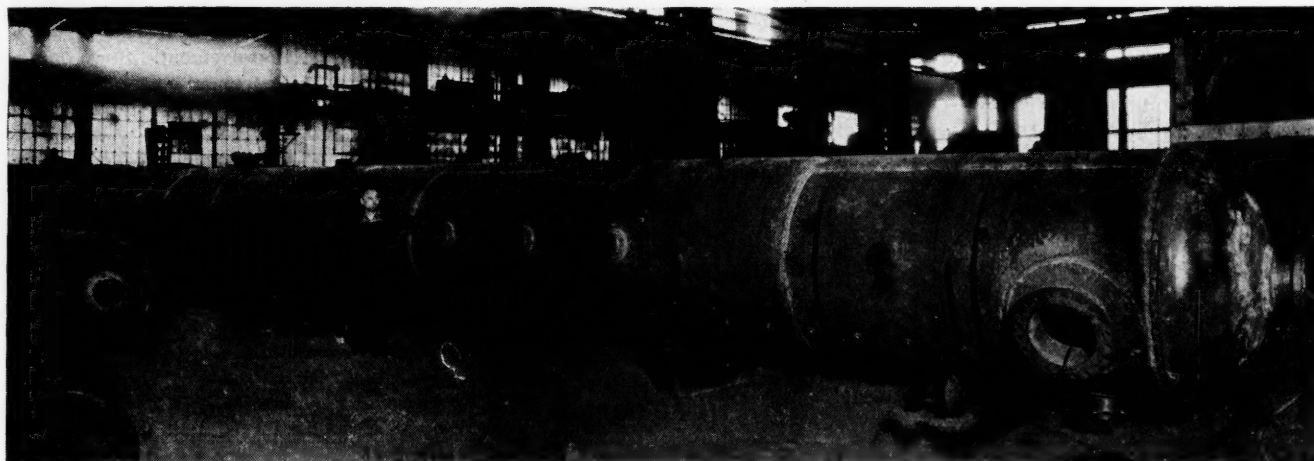
Under the plan the buyer could readily tell the weight of the tare on a bale from the material used. Tare for jute bagging would be 21 pounds; for sugar bagging 18 pounds; and on cotton duck

13 pounds. The number of patches on the bale could be added to the weight of the standard bagging and ties so that deducting weight of the tare from the gross weight, the net weight would be available to compute price of the cotton.

The ability to sell cotton on net weight will make it possible to utilize cotton duck for covering the American crop, when the price of cotton makes it economical to do so. Also, the cotton merchant will be freed from the necessity of having to over-tare bales to meet the rules in some markets, having them stripped to tare to protect himself in other markets, and having bales weighed and reweighed each time they change hands, followed many times by claims and expensive arbitrations. Costs of all of these services whether necessary or unnecessary are charged to the bale and in the end are either deducted from the price paid the farmer for cotton or added to the price quoted the manufacturer.

Texas can well afford to give every assistance to those endeavoring to correct the tare problem.

Welded Drums for Texas Industrial Plant



Hedges-Walsh-Weidner Co., Chattanooga, Tenn., has for a long period been doing welding on high pressure vessels, bearing in mind the objection on the part of some authorities to the use of welded seams in boiler drums. The above view is of a welded drum intended for installation in Texas; the company utilized its "Hy-Pressure Weld" in making the drum. In May, the company's associate, the Combustion Engineering Corporation received an order for two large boilers to have welded drums; one for installation in Detroit, the other for installation in Memphis. It is said that these are the first welded boiler drums to be approved for use in localities where boiler code rules govern boiler construction; and it is interesting to note that the boilers and drums were turned out at the Chattanooga plant.

Only recently the company shipped from Chattanooga one of the first fusion welded boilers to be installed for power purposes in the country. This new development may mark a revolutionary step in the boiler industry. The development of the fusion welded boiler is the result of long and extensive research and experimentation, and a process has been perfected that is entirely different from the conventional method of electric welding. The company has installed a powerful X-ray machine used to examine all welds, and it is said that it is capable of detecting the most minute defect.

Moreover, drums are annealed in a new gas-fired furnace 16 feet wide, 17 feet high and 66 feet long. The annealing process is for the purpose of relieving stress set up during the manufacturing process. Before shipment the welded drums are subjected to a hydrostatic test of double the working pressure. In addition to turning out welded boiler drums the firm has numerous orders on hand for welded boiler drums for the oil refining industry.

IRON, STEEL AND METAL MARKET

Steel Continues Dull

Pittsburgh, July 20.—[Special.]—Dull summers are the rule in the steel trade, the summer ending with Labor Day according to the trade view. Sometimes business begins to pick up a little for the second half of July but so far there is no turn for the better and the common view of steel producers is that steel will be very dull throughout the summer period.

Steel ingot production last week was at about 32 per cent of capacity, against 30 per cent estimated for the preceding week, but the apparent gain of two points was only technical as some departments or plants, having closed for the national holiday, simply remained closed for the succeeding week. In fact, some doubt is entertained whether last week's rate can be continued for the remainder of the month.

On account of increasing steel capacity year by year, and particularly last year, percentage rates of steel production make general business, or steel consumption, appear lighter than is really the case. A 30 per cent rate means 20,000,000 tons of ingots a year and 32 per cent about 21,500,000 tons, occurring at the very slackest time in the whole year. In 1912 and 1913, the two biggest years before the war, when there was much activity, production in the full calendar years was 30,000,000 tons in each case. An ordinary year would total 10 to 15 per cent above the July rate, on account of seasonal variations. Thus in this very dull season in a great depression there is really quite a good bit of steel being made and consumed.

It is thought that on account of there being so much current news of financial troubles abroad buyers of steel and steel manufactures are particularly conservative, thus producing a special dullness out of keeping with the very sound financial position of this country, and the presumption is that as matters get straightened out abroad there will be more favorable sentiment, like that created by the debt moratorium proposal announced June 22.

Opinion is that the railroads will secure as much advance in freight rates as needed to restore their credit, needed for various refunding operations in the next few years, rather than for fresh issues with which to make extensive improvements. Not much railroad steel buying is expected for quite a while to come except as to some electrification and as to rails for replacement pur-

poses, making next year better than this in rail production.

Decidedly heavier farmer buying is expected as crops are realized on even though unit prices are quite unsatisfactory. Already a little improvement is noted in shipments of some steel products to jobbers in the agricultural areas. General line buying is expected to undergo an unusually sharp increase after this dull summer. Steel producers do not expect automobile production to do better in the late months of the year, relative to the first half, than usual, which means rather light automobile production in the rest of the year.

Fabricated structural steel lettings reported last week were very heavy by reason of the Golden Gate bridge at San Francisco being let, involving 86,000 tons. Apart from that lettings were fair, better than the average of the four preceding weeks. New projects coming out for bidding were light, as for seven weeks preceding.

Bars, shapes and plates are still regarded as quotable at 1.65c, Pittsburgh, but consumers in general are still getting supplies at not over 1.60c by extensions of old contracts. Even 1.60c represents no decline from last December, while various other steel products have declined. It is reported that Detroit is to be made a basing point, by reason of new productive capacity completed there. The proposed price is \$3 a ton over Pittsburgh or considerably less than the freight.

Sheet mills are adhering firmly to their advanced asking prices of July 1, but the market undergoes little test, buyers being covered for the time being.

Metals Show Weakness

New York, July 20.—[Special.]—The metals cannot well escape the uncertainty involving the world's economic situation. Accordingly the undertone of the more volatile metals has been weak even where distinct declines were not registered. Copper has sold at the lowest levels on record. Tin has slipped back to the lower level of late spring. Lead and zinc have proved the exceptions to the general trend, retaining for the most part the sharp advances which took place in June. Silver has been selling under 28 cents per ounce, or somewhat lower than recent levels. Quick-silver is down to \$94 per flask of 76 pounds, the lowest for many months.

Antimony has been sagging gradually to 6¼c per pound, duty paid.

Business is extremely quiet, partly as a reaction to the very brisk tonnage sales of June and partly because of the general uncertainties. Zinc has been more active than other metals because of a better statistical position. Not only are American statistics headed in the right direction but the international zinc cartel has just agreed to cut production 8000 tons monthly, effective August 1. The lead cartel has also agreed to cut production 5 per cent more following a cut of 15 per cent, effective May 1. The prices of these two metals have held firm for these reasons.

Better feeling in lead and zinc is felt in the tri-State district, or the southern section of the Middle West. Mine operators are holding ore for higher prices and are selling at current quotations very reluctantly. Thus though zinc ore is \$23 per ton (as against \$20 at its spring low) many operators will not sell until the price reaches \$25 to \$30 per ton. Lead ore, or concentrates, is theoretically \$40 per ton (as against \$30 in early June) but sales have actually been made at \$42 to \$45, or even \$50 so scarce is ore at the lower figure.

Industrial conditions generally show little, if any, improvement. Steel operations are 32 to 33 per cent of capacity and may go still lower this month. Automobile production in July will probably be around 200,000 units as against 254,000 cars and trucks in June. Though building operations are extensive they are of the kind which take mostly steel and but little non-ferrous metal. The Golden Gate bridge, for instance, will require 110,000 tons of steel, but practically no metal.

Copper statistics for June were about as expected and did not produce unusual disappointment. Surplus stocks of refined copper increased nearly 15,000 tons to a total of over 413,000 tons, the largest on record. Blister stocks, on the other hand, fell 3000 tons to the lowest point for nine years. Total refined and blister stocks stand at over 600,000 tons as against 605,000 tons a few months ago. Daily refined production was the lowest in several years and a decline of 37 tons daily from May. World production in June was the lowest in several years, or 126,722 tons against 130,486 tons in May.

The June copper statistics again reveal that drastic curtailment of production is needed and it is expected that conferences to consider concerted curtail-

ment will be revived soon. Zinc statistics for June were decidedly favorable, revealing a decrease in surplus stocks of over 4000 tons; also a decline in production of 2200 tons and an increase in shipments by 1750 tons. It is predicted that July figures will be even more favorable. The lead trade expects that last month's statistics will be favorable when they are issued soon, it being predicted that shipments will have been shown to have gained 6000 tons.

The export price of copper was reduced early in the week to 8.25c per pound, c. i. f. European ports, a new all-time low, which compares with 8.275c in June. In the domestic market copper has sold as low as 7½ cents. Lower prices did not bring out a better volume of business. In the first place domestic copper consumers are covered on the great bulk of their needs for the rest of the year, having bought at previous times when copper seemed to be a bargain. Again, consumption of copper is not as large as those who bought copper had expected it would be.

Zinc has been selling at 3.90 to 3.95c per pound, East St. Louis, as against 3.20c early in June. The strength of the statistical situation has impressed zinc consumers and made them interested in fresh purchases. Lead has resumed its usual role of being the steadiest of the metals, selling for many days now at 4.40c per pound, New York, and 4.225c, East St. Louis. Demand has been chiefly for carload lots for prompt shipment.

The tin market has been very erratic, fluctuating between 24c and 26¾c per pound. The principal news of the week was the announcement that Siam would join the other tin producing nations in curtailing production, its output to be limited to 10,000 tons yearly. This means that 92 per cent of the world's tin production is subject to the production limitation agreement.

By Thursday sentiment in the metals was somewhat better, the price of tin rising ¾ cents on that day.

Activity Fair in Birmingham

Birmingham, Ala., July 20—[Special.]—Contracts for various products of the district, reported weekly, show fairly good activity though readjustment of production continues. Railroad business has been lagging and the backlogs on orders placed in January mainly have been worked down to the narrow edge. Closing down of the rail mill this week carries with it five open hearth furnaces on ingots, blowing out of one blast furnace and banking of fires in another. The sheet, plate, strip and other mills of the Tennessee Coal, Iron & Railroad Company will continue in operation to

50 per cent of capacity with prospects of increased business being felt. Gulf States Steel Company has warrant for steady operation of its sheet and plate mills and two open hearth furnaces are making ingots for the entire works, including a little wire and wire products.

The only steady interests in the pig iron circles are cast iron pressure pipe manufacturers and production and shipments both are quite active. It is estimated still that pipe making shops are going at the 50-per cent capacity clip. Prompt deliveries in far away sections are being made from warehouses but the warehouses must be kept well supplied. Machine shops and foundries are not doing a very large amount of business. All pig iron buying is on the same method as for many months heretofore, in very small tonnages and specification for early delivery. The furnace interests are giving every attention to the business, too, be it a car lot or several cars of iron. The Steel Corporation readjustment of the iron production this week will be followed by independent companies, two other blast furnaces of the district being slated to go out of commission by the end of the month. Base price of pig iron has remained firm, \$12 to \$13, No. 2 foundry. A lower price would hardly develop any business, is a view taken.

Surplus stock of iron has increased some in the district. There is a little iron still moving to the East, along the Atlantic coast, the special rail and water rate making it possible to get a few hundred tons the week in that territory.

Fabricating shops on structural shapes of steel report prospects bright and some heavy specifications in sight. Bridge work is to be let this month in various directions while other structural requirements will give encouragement. However, Southern interests are finding keen competition with water haulage from the Eastern concerns. A little 50-ton contract in Montgomery, Ala., even went to another district.

Reinforcing concrete bars are moving only fairly good. Manufacturers of cotton ties are looking forward to the opening of the demand on this shape. Three mills in the South produce cotton ties, two in Birmingham. Prospects are brighter than casual survey would show. Much attention is being given to cotton, according to reports received here and it is on the crops that the iron and steel manufacturers and fabricators get ideas of confidence.

The coal industry is still lagging and the production is very low. Contracts have been made by the railroads for their next 12-months requirements but in no instance is there report of an increased tonnage.

The coke market is in a seasonal lag.

Production is off 35 per cent. Domestic coke prices vary but foundry coke remains firm at \$5, the same as has prevailed two years and longer.

Chief State Mine Inspector Hillhouse reports 11 fatal accidents in coal mines during the first six months of this year against 35 for the same period last year.

Pig iron production in Alabama for the first six months of this year amounted to 1,017,185 tons against 1,412,132 tons for the same period in 1930. The iron production in the State for the year, 1930, was 2,394,725 tons.

Quotations on pig iron and iron and steel scrap in the Birmingham district are as follows:

PIG IRON

No. 2 foundry, 1.75 to 2.25 per cent silicon, \$12.00 to \$13.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$12.50 to \$13.50; iron of 2.75 to 3.25 per cent silicon, \$13.00 to \$14.00; iron of 3.25 to 3.75 per cent silicon, \$14.50 to \$15.00.

OLD MATERIAL

Steel rails	\$10.00 to \$11.00
Steel axles	12.00 to 12.50
Iron axles	12.00 to 12.50
Heavy melting steel.....	8.00 to 9.00
No. 1 cast.....	9.00 to 10.00
Stove plate	7.00 to 8.00
No. 1 railroad wrought.....	8.00 to 8.50
Car wheels	8.00 to 9.00
Tramcar wheels	8.00 to 9.00
Machine turnings	4.50 to 5.50
Cast-iron borings	4.50 to 5.50
Rails for re-rolling.....	10.25 to 11.00

Fuel Briquets Production

For the second time in the history of the industry, the production of fuel briquets in 1930 exceeded 1,000,000 tons, running 28,865 net tons above that figure. The output was valued at \$8,028,736, representing a decrease of 15.1 per cent in tonnage and 15.6 per cent in value from 1929. Among the plants operating in the South in 1930 were the Virginia Fuel Corporation, Norfolk, anthracite and bituminous slack; Berwind Fuel Company, Berwind, W. Va., with headquarters in Chicago, semicoke; Coal Distillation Company, Moundsville, W. Va., office in Pittsburgh, semicoke; Winding Gulf Collieries, Bluefield, W. Va., bituminous slack. Standard Briquet Fuel Company, St. Louis; Lincoln Power Company, Howe, Okla., office in Chicago, and Magnolia Petroleum Company, Beaumont, Texas.

Boat Service on Cape Fear River

Fayetteville, N. C.—W. O. Huske of the Fayetteville Chamber of Commerce, F. H. Stedman, A. E. Dixon and W. W. Horne have incorporated the Interior Motor Ship Lines, Inc., for the operation of a freight service on the Cape Fear River between Fayetteville and Wilmington. The service will cover a distance of 115 miles over an established 4-foot channel, the company's charter calling for bi-weekly trips.

NEW AND IMPROVED EQUIPMENT

Gondola Cars With Malleable Side Stakes

Some interesting facts regarding the construction of 1500 gondola cars built for the Pennsylvania Railroad last winter have been presented by the Malleable Iron Research Institute, Inc., Cleveland, Ohio. The cars were built in the three shops of the railroad at Altoona, Enola and Pitcairn, Pa., at a cost of approximately \$5,000,000 and required 93,000,000 pounds of steel and steel products. The new type car is known as G-26 gondola and is built to accommodate a normal load of 140,000 pounds with a limit of



Has Normal Loading Capacity of
140,000 Pounds

148,000 pounds. Its overall length is 70 feet, three inches, with an inside body length of 67 feet, 9 inches, and an inside width of 7 feet 7½ inches. It weighs 62,000 pounds.

Carefully designed for heavy duty and long life with a minimum of repairs, and primarily to carry structural steel and pipe, the car is equipped with drop ends for the open shipment of automo-

biles. An unusual feature is the use of high strength malleable castings for side stakes, specified by the engineers for the purpose of procuring a corrosion resistant material uniformly strong and rigid without excessive weight. Specifications called for a minimum yield point of 35,000 pounds and an elongation of 18 per cent. A total of 2600 tons of malleable iron comprising 57,000 pieces was ordered from four different foundries, and a record compiled from all heats from which the stakes were cast is said to show an average yield point of 37,927 pounds and an elongation of 23.1 per cent, with an average ultimate tensile strength of 57,600 pounds. A complete technical report of these stakes was made at a meeting in Chicago June 26 of the American Society for Testing Materials.

Geared Head and Turret Lathes

A typographical error in an article in the July 9 issue of the MANUFACTURERS RECORD, illustrating and describing the new Cincinnati patented geared head lathe and the Cincinnati patented turret lathe, made it read that the Cincinnati Lathe & Tool Company, Oakley, Cincinnati, Ohio, "have purchased" these lathes, when it should have read they "have produced" them. The lathes are designed and manufactured by the Cincinnati Lathe & Tool Company, which

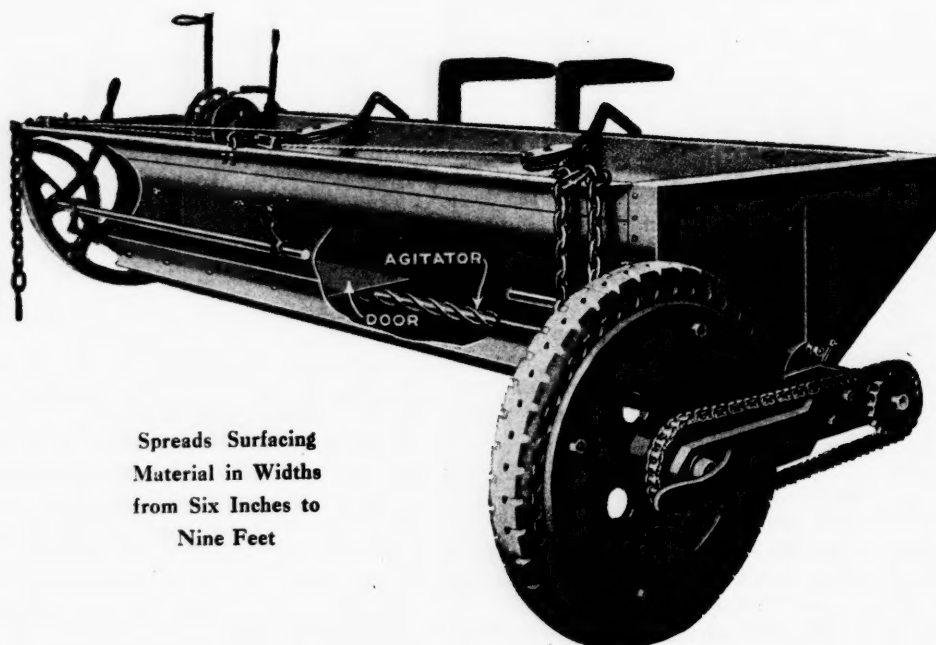
have specialized for more than 25 years on lathes for economically machining any metal work. The patented geared head type is supplied in all sizes from 16 inches to 32 inches, inclusive, while the motors are mounted in the cabinet leg only on the 16-, 18- and 20-inch sizes. The 16-inch by 6-foot lathe weighs 2800 pounds and the 20-inch by 10-foot lathe, 4400 pounds.

Convert Locomotives to Oil Burners

Kansas City, Mo.—All locomotives of the Chicago, Rock Island & Pacific Railway Co., operating on the company's lines south and west out of Kansas City, will be converted immediately into oil burners, according to an announcement here. The work will be done in the railroad's shops and will provide employment for hundreds of additional workmen, with increased working time. The conversion will affect 231 locomotives, it is said, and a construction schedule will involve fuel oil stations between Kansas City and Tucumcari, N. M., and between Herington, Kan., and Fort Worth, Tex. The railroad's locomotives on the Arkansas-Louisiana and Oklahoma divisions were converted into oil burners a year ago.

Utility Spreader for Highways

The Gillie Machine Company, Tonawanda, N. Y., announces the Utility Spreader for surfacing highways with stone, cinders, gravel, sand, slag, screenings or other surfacing material. The spreader will cover any width from 6 inches to 9 feet and will spread the material to any thickness from ¼ inch to 5 inches, operating either backward or forward. Proper spreading is said to be due to the independent agitation of material by a side wheel, the surfacing material being applied as rapidly as the oil and put on while the oil is still hot. The machine is claimed to resurface highways at low cost and at a minimum of inconvenience to traffic, saving oil and giving a better wearing surface.



Spreads Surfacing
Material in Widths
from Six Inches to
Nine Feet

CONSTRUCTION DEPARTMENT and NEW ENTERPRISES

Covering the initial announcements of new undertakings with additional information about enterprises previously mentioned. The date at the end of an item indicates preliminary facts were given in a previous issue.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

The Daily Construction Bulletin of the Manufacturers Record gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

Airports, Airplane Plants, Etc.

Ala., Evergreen—P. C. Hicks, Bay Minette, has contract to grade, level and fence 66-acre aviation field, five miles from Evergreen.

Ala., Maxwell Field—Office of Constructing Quartermaster, Montgomery, M. A. McFadden, receives bids Aug. 11 for furnishing and installing boiler plants, etc., at Maxwell Field. See Want Section—Bids Asked.

Ala., Maxwell Field, Montgomery—S. R. Batson, 1430 N. 30th St., Birmingham, reported, low bidder for roads, drains, sanitary sewers and water mains for War Dept. 7-2

Fla., Ocala—Fisher & Reece, Ocala, have contract for erecting first permanent hangar unit at Taylor Field, city-county airport; all steel; 80x60 ft.; designed by International Steel & Iron Co., Evansville, Ind.; materials to be furnished by that company.

Fla., Sebring—Sebring Flyers, Inc., chartered; J. M. Stephenson, C. S. Babcock.

Ky., Bowling Green—Jenkins Construction Co., Elizabethtown, reported, has contract for grading Government landing field at Smiths Grove; erect beacon lights 90 ft. high; all way running field; establish radio broadcasting station to transmit weather reports to ships between Louisville and Dallas, Tex.; build 60 ft. boulevard from Smiths Grove to airport.

La., Barksdale Field, Shreveport—Capt. Geo. E. Lamb, Constructing Quartermaster, receives bids Aug. 7 for electrical distribution system; cost \$50,000; project includes all house and barrack lighting, street lights and power; substation will be constructed at field; lines laid underground in conduits. 7-16

La., Barksdale Field, Shreveport—Capt. Geo. E. Lamb, Constructing Quartermaster, receives bids Aug. 3 to furnish and install steel deck roofing, insulated built up and asbestos protective and metal roofing for warehouse, garage and maintenance buildings; W. Murray Werner, Commercial Bank Bldg., Shreveport, Gen. Contr.

La., Barksdale Field, Shreveport—Constructing Quartermaster opens bids Aug. 7 for electric distribution system and main entrance structures.

La., Barksdale Field, Shreveport—Red River Construction Co., Shreveport, reported, low bidder for filling Lake area of Barksdale Field. 7-16

La., Monroe—Ouachita Parish Police Jury receives bids soon for airport station for Selman Field; may construct gravel runway. 6-25

La., New Orleans—Orleans Levee Board, A. L. Shushan, Pres., signed contracts with National Airport Engineering Co., Ltd., William E. Arthur, Pres., Los Angeles, Omaha and Cleveland, for design and engineering of initial \$1,500,000 portion of Shushan airport, to ultimately cost \$10,000,000; preliminary surveys and aerial photographic work completed; construction of two miles of conc. bulkhead under way; plans now under way for administration building, hangars, motor repair buildings, hospital, lighting for night flying and radio station control; John Klorer, Ch. Engr., levee board. 7-9

Mo., Kansas City—City, Matthew S. Mur-

ray, Director of Public Works, reported, erect \$20,000 building at Kansas City Airport, to be occupied in part by branch of railway post office; brick, steel and conc.; second floor will be occupied by United States Aerological Station, tower above will be used for observation.

Mo., St. Louis—Bd. of Public Service opens bids Aug. 11 for Letting 4315, grading field, constructing vibrated conc. aprons, taxi strips and service road, St. Louis municipal airport.

Okla., Oklahoma City—Langbein & Johnston, Architects, 915 N. Hudson St., have plans complete for hangar, Oklahoma Aviation Service, Inc., at Municipal Airport; brick, 120x140 ft., 1 story, cement floor, built-up roof, conc. foundation, cast stone, terrazzo floors, metal doors, steel sash and trim, wire glass; cost \$35,000; address equipment proposals to architect. Secor & James, 519½ W. Main St., have contract at \$53,000 for administration building at Municipal Airport, including heating and plumbing; Griffith Electric Co., 224 W. 23rd St., Oklahoma City, has contract at \$11,381, for lighting system. 6-25

Okla., Tulsa—Watt Plumbing, Heating & Supply Co., 608 S. Cincinnati St., has contract for heating and plumbing for administration building municipal airport; Allen Electric Co., Mayo Bldg., Tulsa, for wiring; G. J. Bowie, Gen. Contr., Daniels Bldg.; cost \$75,000.

Tex., Randolph Field—C. Wallace Plumbing Co., 2224 Summer St., Dallas, reported, has contract for heating plant for engineering shop at Randolph Field; A. W. Parker, Constructing Quartermaster.

Tex., Randolph Field—Constructing Quartermaster, Capt. A. W. Parker, opens bids July 25 for flying field illumination; following firms estimating Collier Constr. Co., 500 E. 102nd St., Cleveland, O.; R. H. Boulogny, Inc., 50 W. Morehead St., Charlotte, N. C.; Graham & Collins Electric Co., 801 Main St.; Kirkwood & Wharton, 503 N. Flores St.; Wright Brothers Electric Co., 405 Main St.; Martin Wright Electric Co., 1001 Navarro St., all San Antonio; Greenwood Electrical Co., 4849 Chestnut St.; Electric Service supplies Co., 17th and Cambria Sts., both Philadelphia, Pa.; Dozier Construction Co., Littlefield Bldg., Austin, Tex. 7-9

Tex., Taylor—City Commrs., reported, leased municipal airport to A. W. Gustafson, Hutto; will construct hangar, etc.

Va., Charlottesville—Dixie Flying Service, Inc., Edward M. Sturhahn, Pres., repairing hangar, Wood Field, damaged by storm.

Va., Charlottesville—Dixie Flying Service, Inc., operators of Wood Field, local airport, reported, plans reconstructing hangars destroyed by storm at loss of \$20,000.

Va., Norfolk—Ludington Lines, P. F. Collins, V. P., Washington Bldg., Washington, D. C., reported, plans direct air passenger service Norfolk and Washington as soon as suitable airport is provided; Norfolk-Washington Steamboat Co. will probably be associated with Ludington Lines.

Va., Richmond—F. H. Boatwright, 2536 Chamberlayne Ave., reported, has contract for extension to hangar at Richard E. Byrd Flying Field, Richmond. 5-7

Bridges, Culverts and Viaducts

Proposed Construction

D. C., Washington—District Highway Dept., H. C. Whitehurst, Ch. Engr., take bids at once for underpass at Piney Branch road intersection of metropolitan branch of B. & O. R. R.; \$250,000 available; widen Piney Branch road 16 to 14 ft., and will be extended, Buttnerut St. to railroad tracks.

Fla., St. Petersburg—See Miscellaneous Construction.

Ky., Catlettsburg—Boyd County Fiscal Court completed arrangements for purchase of rights of way for new overpass, Ashland-Russell road.

Ky., Cumberland—Industrial Engineering Co., Lock Box 272, Lexington, drawing plans for municipal bridge.

Ky., Henderson—Indiana State Highway Comsn., J. J. Brown, Dir., Indianapolis, Ind., has low bids from Globe Construction Co., Evansville, Ind., for contracts No. 6 and 7 on Evansville Ohio River bridge project, U. S. 40, between Evansville, Ind., at \$97,044, and \$134,865, respectively. 7-2

LOUISIANA—State Highway Comsn., O. K. Allen, Chmn., Baton Rouge, opens bids Aug. 25 for 6 bridges in following parishes:

Jackson—overpass C. R. I. & P. R. R., Jonesboro, Proj. 3403, 47-ft. combination I-beam span and 8 19-ft. combination I-beam spans on creosoted piling, 24-ft. roadway, 22,000 lb. rein. steel, 94,000 lb. struc. steel, 10.0 M. ft. b. m. creosoted lumber, 2650 lin. ft. creosoted piling, 120 cu. yd. "AA" conc.;

Jefferson—overpass I. C. R., Baton Rouge, Proj. 3602, 13 40-ft. rein. conc. deck girder spans on conc. piling, 40-ft. roadway, 1170 cu. yd. "AA" conc., 350 cu. yd. "A" conc., 355,000 lb. rein. steel, 35,000 lb. struc. steel, 1500 lin. ft. 14-in. conc. piling, 9100 lin. ft. 18-in. conc. piling; Caminada Bay bridge, Golden Meadow-Grand Isle Highway, Proj. 3607, 190 19-ft. creosoted pile trestle spans and 35-ft. I-beam span, 21-ft. roadway, 770 M. F. B. M. creosoted lumber, 60 M. F. B. M. untreated lumber, 39,000 lin. ft. creosoted piling, 8100 sq. yd. asphalt wearing surface; est. \$65,000;

Lafourche—Bayou Lafourche bridge, Golden Meadow-Grand Isle Highway, Proj. 3806, 160-ft. swing span supported on creosoted piles capped with conc. and 8 19-ft. creosoted pile trestle approach spans, 20-ft. roadway, 115 cu. yd. "A" conc., 5200 lin. ft. rein. steel, 200,000 lb. struc. steel, 60 M. F. B. M. creosoted lumber, 3400 lin. ft. creosoted piling, 6400 sq. ft. asphalt planks; est. \$120,000;

Pointe Coupe-St. Landry—Atchafalaya River bridge, Krotz Springs, Port Allen-Opelousas Highway 3 500-ft. fixed spans on conc. piers, 21 60-ft. I-beam spans on timber piers, 24-ft. roadway, 30,000 cu. yd. struc. excavation, 1600 cu. yd. "AA" conc., 19,000 cu. yd. "A" conc., 6800 cu. yd. "B" conc., 1,184,000 lb. rein. steel, 5,200,000 lb. struc. carbon steel, 1,470,000 lb. struc. silicon steel, 58 M. F. B. M. creosoted lumber, 16,620 lin. ft. creosoted timber piles, est. \$1,200,000;

St. Mary—Atchafalaya River bridge, Morgan City, Franklin-Morgan City Highway, Proj. 6004, 3 608-ft. fixed spans on conc. piers, two 126-ft. deck truss on conc. piers,

35 40-ft. rein. conc. deck girders on conc. bents, 24-ft. roadway, one 6-ft. sidewalk, 23,470 cu. yd. struc. excavation, 4360 cu. yd. "AA" conc., 13,500 cu. yd. "A" conc., 7700 cu. yd. "B" conc., 1,685,000 lb. rein. steel, 4,727,000 lb. struc. carbon steel, 4,453,000 lb. struct. silicon steel, 24,500 ft. untreated timber piles, 7300 sq. yd. conc. pavement, est. \$1,600,000.

La., New Orleans—New Orleans Public Belt R. R., Frank H. Joubert, Sec.-Treas.-Gen. Mgr., Municipal Bldg., reported, start work in about 60 days on \$15,000,000 combined railroad and highway bridge over Mississippi River. 7-9

La., Shreveport—Caddo Parish Police Jury, J. T. Bullen, Parish Engr., Courthouse Bldg., opens bids Aug. 1 for 2 conc. pile bridges, North Lakeshore Dr.; also take bids same date for rein. steel.

MARYLAND—State Roads Comsn., L. H. Stewart, Sec., Baltimore, opens bids July 28 for 3 bridge projects in following counties: Frederick—double, 40-ft. span, steel and conc. girder bridge, on road from Frederick to Libertytown, over Israel Creek, F-119-57; Montgomery—extensions and alterations to 8 bridges on Rockville Pike between Bethesda and Rockville, one being 2.1 mi. north of Bethesda and other 2.7 mi. north of Bethesda, M-169-311;

Washington—gunite work in connection with existing bridge over Beaver Creek on road from Boonsboro to Hagersstown, known as Kline's Mill bridge, W-95-611.

Maryland—State Roads Comsn., L. H. Stewart, Sec., Baltimore, will have \$2,350,000 available within 12 months for constructing and replacing 20 inadequate bridges, including following: Frederick County—Fishing Creek, \$20,000; Ceresville, \$60,000; Rocky Ridge, \$60,000; Israel's Creek, \$16,000; Montgomery County—Slingo Branch, \$8000; Northwest Branch, \$9000; Layhill road, 3 bridges, \$5000, \$5500 and \$5000, respectively.

Md., Baltimore—City, Bureau of Highways, H. L. Lucke, Bridge Engr., Municipal Bldg., and Pennsylvania Railroad, W. B. Wood, 301 Union Sta., Baltimore, open bids Aug. 5 for \$135,000 bridge, Loney's Lane; steel, conc. abutments; Henry G. Perring, Engr., Court Square Bldg. 7-16

Md., Baltimore—Following estimating on \$50,000 bridge, Hoffmanville, Md., for City, Bureau of Highways, H. L. Lucke, Bridge Engr., Municipal Bldg., bids due July 29: Victor A. Pyles Co., 527 Chesapeake Ave.; T. D. Claiborne, 512 Garrett Bldg.; Sanford & Brooks, South and Water Sts.; American Bridge Co., Continental Bldg.; Mullan Contracting Co., 3945 Greenmount Ave.; Frank Carozza & Son, 2444 N. Eutaw St.; Empire Construction Co., 31 S. Calvert St.; Peter D'Adamo Construction Co., 207 Old Town National Bank Bldg.; McClintic Marshall Co., Baltimore Trust Bldg.; Frank Marine, 2 E. Lexington St.; Merritt-Chapman & Scott Corp., Fidelity Bldg., all Baltimore; Phoenix Bridge Co., Munsey Bldg., Washington, D. C.; Dravo Contracting Co., Neville Island, and Rust Engineering Co., Koppers Bldg., both Pittsburgh, Pa.; Whitaker & Diehl, Harrisburg, Pa. 7-16

Md., Baltimore—Pennsylvania R. R., W. B. Wood, Engr., Pennsylvania Sta., Baltimore, opens bids July 29 for bridge, Frederick Ave. 7-16

Md., Snow Hill—State Roads Comsn., L. H. Stewart, Sec., Baltimore, opens bids Aug. 4 for single leaf, bascule bridge together with bascule pier, approach span, operator's house, electrical equipment, machinery, etc., over Pocomoke River, Snow Hill, Worcester County, Wo-69-17.

Missouri—State Highway Comsn. receives bids for 26 bridges. See Roads, Streets and Paving.

Miss., Greenville—Washington County Supvrs., Howard Dyer, Chancery Clk., Courthouse, opens bids Aug. 3 for bridge over Bogue Phalia River, Arcola-Trail lake public road, all materials to be furnished by county.

Miss., Oxford—Lafayette County Supvrs., G. A. Woodward, Clk., open bids Aug. 5 for wooden bridge, 100 ft. long, over Dry Branch north of Harbortown, Beat 6.

Md., Towson—Baltimore County Comms., J. P. Grayson, Roads Engr., rejected bids for bridge over Deep Creek, Marilyn Ave., 15th Dist.; pile foundations, steel superstructure; take new bids later. 7-9

N. C., Durham—City, R. W. Flack, City Mgr., and Norfolk & Western Ry. Co., W. P. Wiltsee, Ch. Engr., Roanoke, considering widening and improving overhead bridges spanning tracks on Trinity Ave. and Mangum St.

Oklahoma—State Highway Comsn., Ed McDonald, Sec., plans bridge over Arkansas River in Sallisaw section.

Okla., Oklahoma City—Atchison, Topeka & Santa Fe Ry. Co., G. W. Harris, Ch. Engr., Chicago, Ill., reported, has plans in progress for 12 steel and rein. conc. underpasses; H. L. Hunter, Res. Engr., Oklahoma City.

Okla., Oklahoma City—Atchison, Topeka & Santa Fe Ry., H. W. Wagner, Ch. Engr., Eastern Lines, Topeka, Kan., opens bids July 27 for 11 underpasses; Second, Third, Fourth, Fifth and Sixth, 80-ft. roadways; 30-ft. sub-way at First; 2 33-ft. roadways and 10-ft. sidewalks, Main St.; Grand Ave., 2 30-ft. roadways and 2 10-ft. sidewalks; Reno Ave., 2 22-ft. roadways and 8-ft. sidewalks; roadways will be 20 ft. each at Chickasaw, with 2 4-ft. sidewalks; Choctaw Ave., 40-ft. roadway and 2 4-ft. walks.

West Virginia—State Road Comsn. receives bids for 8 bridges. See Roads, Streets and Paving.

Contracts Awarded

Ala., Bay Minette—Baldwin County building 300-ft. creosoted timber bridge between Foley and Magnolia Springs; Republic Creosoting Co., S. end of Water St., Mobile, furnish all creosoted piling and lumber.

Georgia—State Highway Bd. let contracts for 14 bridges. See Roads, Streets and Paving.

Louisiana—Following have contracts for steel for 8 bridges for State Highway Comsn., O. K. Allen, Chmn., Baton Rouge: 145 tons, Natchitoches Parish, Braird Corp., Birmingham, Ala.; 125 tons, Washington Parish, 100 tons, East Baton Rouge Parish, 100 tons, Union Parish, 100 tons, Homer Parish, 155 tons, Rapides Parish, and 102 tons, Pointe Coupee Parish, Virginia Bridge & Iron Co., Roanoke, Va.; 140 tons, Sabine Parish, Pidgeon-Thomas Iron Co.

Md., Baltimore—See Railways.

Miss., Holly Springs—Marshall County Supvrs. let contract to Choctaw Culvert & Machinery Co., 491 S. Second St., Memphis, Tenn., for corrugated iron culverts on bonded road in Red Banks Separate Road Dist.; for bridge piling to E. C. Woods, Red Banks; lumber for bridges, Howard Woods; L. S. Berkeley, Red Banks, to supervise construction.

North Carolina—See Roads, Streets and Paving.

Canning and Packing Plants

Fla., Fort Pierce—Nevins Fruit Co., J. J. Parrish, Mgr., erect \$27,500 plant with capacity to produce 1500 boxes citrus fruit daily at Fort Pierce or Vero Beach; 80x140 ft., wood frame, iron roof, wood floors; contract not let; Florida Citrus Machinery Co., Dunedin, has contract for all equipment. 7-16

Fla., Sanford—Eckerson Fruit Cannery, Inc., T. H. Eckerson, 75 Montgomery St., Jersey City, N. J., erecting plant for canning citrus fruits; orders placed for machinery and equipment. 6-11

Tex., Galveston—Galveston Shrimps, Inc., capital \$25,000, incorporated; George Sealy, 2424 G St., establish plant in building now under construction at Pier 34.

Tex., Mission—L. E. Snively, Harlingen, reported, receiving bids for construction of \$60,000 citrus fruit packing plant.

Coal Mines and Coke Ovens

Ala., Dora—Bergin Coal Co., Inc., chartered; C. P. Moore, 801 Conroy Road, Birmingham.

Cotton Compresses and Gins

Ark., Jerome—Jerome Hardwood & Lumber Co., Otto Schupp, Pres., M. A. Bates, Mgr., let contracts to Hardwick-Etter Co., Sherman, Tex., and Truscon Steel Co., Youngstown, Ohio, for 4/80-saw gin; Geo. W. Burks, Dermott, Ark., contractor for building work; foundations in; buildings include 24x76 ft. gin; 16x20-ft. seed house; 28x80-ft. cotton platform; conc. and steel, conc. floors, steel roof; \$20,000. 7-16

Miss., Lexington—Greenwood Compress & Storage Co., Greenwood, reported, leased Lexington Compress Co.

Tex., Agua Dulce—Agua Dulce Gin Co., capital \$70,000, incorporated; H. G. Yakey, J. C. Mrazek.

Drainage, Dredging and Irrigation

Ala., Mobile—War Dept., Washington, approved route for western end of Intracoastal Canal, Pensacola Bay to Mobile Bay; U. S. Engr. Office, Mobile, in charge of work.

Fla., Tallahassee—International Improvement Fund Bd. transferred to Bd. of Comms. of Everglades Drainage Dist., 9 canals in South Florida with total length of approx. 80 mi.

North Carolina—U. S. Engr. Office, Wilmington, open bids in near future for removing approx. 80,000 cu. yd. rock from Inland Waterway channel between Swansboro and New River.

North Carolina—U. S. Engr. Office, Wilmington, received order from War Dept., Washington, for Federal survey of mouth of Smiths Creek with view to making stream navigable.

Okla., Oklahoma City—City, L. M. Bush, City Engr., has low bid from Leo Sanders, at 10 cents per yd. for dredging 3600-ft. channel for North Canadian River.

Okla., Purcell—McClain Co. Comms. have preliminary plans for 400,000 cu. yd. draining, dredging, South Walnut Creek, \$36,000; Milliken & Whiteneck, Engrs., Majestic Bldg., Oklahoma City.

Texas—U. S. Engr. Office, Galveston, Tex.—Bids Aug. 10 for dredging Sabine-Neches Waterway at inner end of Sabine Pass, jetty channel over length of about 11,050 ft., and at junction of Sabine Pass and Port Arthur Canal over length of 3900 ft., 377,000 cu. yd.

Texas—U. S. Engr. Office, Galveston, let contract to Gulf Coast Dredging Co., 2311½ Ave. C, Galveston, at \$29,295, for dredging Cedar Bayou channel. 6-18

Electric Light and Power

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

D. C., Washington—Potomac Electric Power Co., reported, acquired tract in Southwest section, abutting T. U. and V Sts., in salient formed by junction of James Creek Canal with Potomac River near Buzzards Point for proposed \$5,000,000 auxiliary power plant.

Fla., Miami Beach—City Council considering renewing street lighting contract of Florida Power and Light Co.; Claude A. Renshaw, City Mgr.

Fla., Pensacola—Industrial Power Equipment Co., 421 W. Camden St., Baltimore, Md., low bidder for power plant and piping for Bureau of Yards and Docks.

Ga., Waycross—City, L. V. Bean, City Mgr., having specifications prepared for white way. 7-16

La., Hodge—Louisiana Power and Light Co., New Orleans, construct 110,000-volt line at cost of \$100,000, to link Sterlington plant via Winnfield with \$1,500,000 paper mill being constructed by Southern Advance Bag and Paper Co.; 20 to 30 miles long.

Tex., Columbus—Central Power & Light Co., E. B. Nelswanger, Pres., San Antonio, reported, interested in development of dam and canal for development of electric power on Colorado River; develop 8000 h. p. with 20 ft. fall, flow to be stabilized by dams further up the river.

Tex., Nacogdoches—Texas Power & Light Co., Dallas, reported, construct high line to Douglass, distance of 10 miles; cost \$10,000.

Tex., Vernon—West Texas Utilities Co., Abilene, reported, start construction of 20 mile electric power line, 13,000 volt, to extend from point 6 miles south of Vernon to Lockett; cost \$20,000.

Fertilizer Plants

Fla., Jacksonville—Duval Fertilizer Co. incorporated; R. C. Lohmeyer, Greenleaf-Crosby Bldg.

Flour, Feed and Meal Mills

Tex., Delhart—Mayfield Feed and Grain Co., incorporated; J. R. Collard, C. W. Carson, Jr.

Foundry and Machine Plants

La., New Orleans—Service Foundry Co., 1152 S. Peters St., reported, let contract to Pittman Construction Co. for rebuilding burned plant; 48x175 ft.

Mo., St. Louis—Tiffany Castings Co., Branch and Buchanan Sts., organized by Zigman Chaplick, owner of Chaplick Machine Works, Chicago, Ill., for manufacture of smoking stands and household equipment; has plant in former building of Tiffany Aluminum Products Co.; reported, Chaplick Machine Works will be moved to St. Louis and consolidated with this company.

Mo., St. Louis—Whiting Corp., T. S. Hammond, Pres., Harvey, Ill. (Chicago suburb), advises announcement from St. Louis regarding company's plans for a consolidation involving the Fulton Iron Works, St. and Goslin-Birmingham Mfg. Co., Birmingham, Ala., was a little premature; nothing definitely decided. 7-9

Tex., Waco—Evans Strickland Machinery Co., incorporated; R. B. Strickland, 13a Hackberry St.

Va., Norfolk—Old Dominion Foundry Works, Inc., capital \$40,000, incorporated; J. H. Privott, 110 E. Indian River Road.

Garages and Filling Stations

D. C., Washington—Standard Oil Co. of New Jersey, 241 Pennsylvania Ave., N. W., reported, acquired site 14 St., N. W., for construction of master service station.

Fla., Havana—Thompson Chevrolet Co., Inc., chartered; E. Thompson, W. D. Doss.

Fla., Miami—Fred Howland, 1600 N. W. 14th St., reported, has contract at \$41,000 for service station, Biscayne Blvd. and 7th St., for Goodrich Silvertown, Inc., Akron, Ohio. 6-21

Fla., Miami—Miami Beach Motor Co., chartered; B. D. Meyer, Lawyers Bldg.

Fla., Miami—A. J. Keynton, N. W. Second Ave. and 36th St., reported, construct service station.

Ga., Atlanta—Ivy Street Garage, Bolling H. Jones, Owner, 24 Ivy St., S. E., has plans by Cyril B. Smith, Archt., Forsyth Bldg., for addition to garage; struc. steel frame; hollow tile and stucco walls; wood floors; tile and tar and gravel roof; heating; lighting.

Ga., Atlanta—E. & W. Construction Co., 2055 Ponce de Leon Ave., N. E., erect filling station, 816 Cascade Ave., S. W.; 1 story, brick veneer, comp. roof.

Ga., Brooklet—Sam J. Franklin, Statesboro, representative of American Oil Co., reported, erect filling station.

Ky., Louisville—Stoll Oil Refining Co., 227 W. Main St., reported, acquired 4 service stations, real estate, etc., of Roberts Brothers Oil Co., 1217 E. Main St.

Ky., Louisville—Louisville Auto Parts and Tire Co., capital \$20,000, incorporated; Meyer Goldberg, 514 E. Market St.

Ky., Newport—Walker Motor Co., capital \$25,000, incorporated; W. W. Walker, Wm. L. Seibert.

Md., Baltimore—Sun Oil Co., Haines and Warner Sts., construct 1 story, brick filling station, S. W. Cor. Russell and Gunpowder Sts.

Md., Baltimore—American Oil Co., American Bldg., reported, soon take bids for filling station, 1707 Maryland Ave.; brick and stucco; 1 story.

Md., Baltimore—Thos. F. Leonard, 3515 Brehm's Lane, reported, has contract for filling station alterations, Harford Rd. and Evergreen Ave., for American Oil Co., American Bldg. 7-2

Mo., Carthage—George W. Miller, Contr., erecting filling station, Fourth and Lincoln Sts., for Mrs. H. C. Grief; J. E. Miller Oil Co., Springfield, will operate.

Mo., Ferguson—Bollwerk Ferguson Motor Co., Inc., chartered; John J. Bollwerk, 4124 Quincy St.

Mo., Kansas City—Herbert Yates, 5310 Rockhill Rd., construct filling station, Rockhill Rd. and 63rd St.; Stalcup Oil Co., Lessee.

Mo., St. Louis—Benjamin Motor Sales Co., incorporated; Cecile Benjamin, 5588 Waterman St.

N. C., Lincoln—Standard Oil Co., construct \$12,000 filling station E. Main St.

S. C., Greenville—Webb Oil Co., Inc., let contract to Jordan Co., Cleveland Bldg., for 1-story, brick and stucco filling station; conc. floors, tile roof; Beacham & LeGrand, Archts., Peoples Natl. Bank Bldg. 7-16

Tenn., Memphis—H. M. Rhodes, 269 Kenilworth St., reported, erect 20 garages at 157 Granville Place to serve the Almadura Apartments.

Tenn., Memphis—Chip Barwick Chevrolet Co., capital \$50,000, chartered; Chip Barwick, 740 Union St.

Tex., Houston—T. J. Montalbano, 1405 Edwards St., erecting service station, Houston Ave. and Dart St.; L. R. Ashmore, 515 E. Ninth St., erecting service station, Yale and 20th Sts.; both to be leased by Gulf Refining Co. 7-16

Gas and Oil Enterprises

D. C., Washington—The Bartlett Hayward Co., Baltimore, Md., advises gas holder being fabricated by Bartlett Hayward Co., for Washington Gas Light Co., is a telescopic four-lift water sealed holder with steel guide frame and conc. tank; Daniel E. Moran, New York, acted as consulting engineer in the design of this tank; conc. tank is 227 ft. 6-in. in diam. and 33 ft. deep; contains approximately 2900 cu. yds. of conc.; of rein. conc. construction and is being built by Forbes-Murphy Construction Co., 326 St. Paul St., Baltimore; overall height of the guide frame above top of conc. tank is 130 ft.; holder will be supplied with 4 telescopic lifts, having a capacity of 4,710,000 cu. ft.; total weight of steel entering into the construction of this gas holder will be approximately 1350 tons; completion by fall. 6-25

Ky., Carrollton—Natural Gas Development Corp., incorporated; Carl L. Davis, Joseph Brown.

Ky., Lexington—Domain Oil and Gas Co., Lexington, purchased 250 oil wells in Estill and Powell counties from Kentucky Natural Gas Co.

La., Baton Rouge—A. C. Stewart, 810 E. Blvd., has contract for new laboratory, gasoline storehouse and garage, Fuqua St. and Jackson Rd., for Ethyl Gasoline Corp., 25 Broadway, New York; laboratory and garage, 1 story, steel deck comp. roof, brick walls, steel sash and cement trim; gasoline storehouse to have conc. roof; rein. conc. foundation, overhead doors, metal sash partitions, struc. steel. 6-18

Mo., Kansas City—Milton Drilling Co., incorporated; L. M. Williams, 4436 Penn St.

Mo., Kansas City—Great Lakes Pipe Line Co., Ponca City, Okla., may extend pipe line carrying gasoline from Oklahoma refineries to Kansas City, Des Moines, Chicago and St. Paul to Omaha, Neb., and Council Bluffs, Iowa.

Mo., Potosi—Lewis Oil Co., incorporated; Aaron Lewis, Potosi; J. G. Walton, Belgrade.

N. C., Greenville—City voted \$100,000 gas plant purchase bonds.

Oklahoma—Western Service Corp., Braniff Bldg., Oklahoma City, Earl R. Ernsberger, Pres., reported, has survey under way for installation of 20-in. natural gas pipe line from Oklahoma City through Tulsa and to points in the north; cost approximately \$10,000,000. 5-7

Oklahoma, Boynton—City voted franchise to Braman Oil Co. 6-25

Oklahoma, Oklahoma City—City Council ordered election, no date set, on natural gas proposals; renewal of franchise to Oklahoma Natural Gas Corp., and issuance of \$4,000,000 bonds for purchase or construction of municipally owned gas plant; J. C. Howard and Western Service Corp., Oklahoma City, also submitted proposals.

Oklahoma, Tulsa—Western Service Corp., Oklahoma City, reported, considering advisability of submitting to city an offer for natural gas franchise.

Oklahoma, Yale—City defeated granting franchise to Yale Natural Gas Co.

S. C., Johnston—Service Gas and Oil Co., chartered; C. M. Routon, Pres.; H. P. Hallman, V. P.

Tenn., Dyersburg—Ira T. Johnson Oil Co., incorporated; Ira T. Johnson, J. L. Hines.

Tex., Dallas—Salmon Oil Co., capital \$45,000, incorporated; J. B. Salmon, 1003 Clermont St.

Texas—Atlantic Refining Co., 260 Broad St., Philadelphia, Pa., reported, let contract to National Tube Co., Youngstown, O., for 180 miles of 10½-in. seamless pipe for pipe line to extend from east Texas fields. 7-9

Tex., Gladewater—Gregg Oil Co., J. C. Hunter, Pres., Box 1464, Abilene, drilling three or more oil wells; will construct pipe and fittings, storage tanks and separators; cost \$30,000; Graham and Christie, Wichita Falls, have contract at \$20,000 per well. 6-18

Tex., League City—Texas Pipe Line Co., Texas Co. Bldg., Houston, applied to U. S. Engineer Office for permission to place 8-in. oil pipe line across Clear Creek, near interurban bridge at League City.

Tex., Longview—Gregg Construction Co., H. W. Turner, V. P., P. O. Box 618, has contract for refinery, railroad switch, loading rack and 17 miles of 6½-in. pipe line for Bell Oil & Gas Co., Tulsa, Okla.; capacity of refinery 10,000 bbls.; cost of pipe line and refinery \$125,000; John C. Schroeder, Constr. Engr. 7-16

Tex., Longview—Southwestern Engineering Co., reported, will have change of construction of 10,000 bbl. capacity crude oil refinery near here by Dancinger Oil & Refining Co.,

Pampa; plant of skimming type will be located 2½ miles south of Longview; separate company will probably be formed to carry on the operations. 7-16

Tex., Paris—John W. Sappington, Pres., Indian State Oil Co., reported, erect refinery.

Tex., Tyler—Petroleum Pipe Lines & Storage Co., capital \$20,000, incorporated; J. G. Reaves, R. S. Howard.

Va., Farmville—Crescent Oil Co., incorporated; L. M. Holden, Farmville; R. B. Bland, Hendersonville.

W. Va., St. Mary's—Ohio Valley Refining Co. involved in merger of 19 oil companies of western Pennsylvania, West Virginia and southeastern New York into the Quaker State Oil Refining Corp., Oil City, Pa., H. J. Crawford, president; other organizations involved include Quaker State Oil Refining Co., Oil City; Emlenton Refining Co., Emlenton, Pa.; Independent Refining Co., Oil City; McKean County Refining Co., Bradford; Jesse B. Berry Sons Co., Oil City; Sterling Oil Co., Emlenton; Enterprise Oil Co., Buffalo, N. Y.

Ice and Cold-Storage Plants

Ga., Atlanta—Larkin Warren Refrigerator Corp., Lester W. Larkin, Pres., 915 Fair St., S. E., manufacturers of ice boxes and ice counters for butcher and candy trade will occupy building formerly occupied by The Warren Co.

Mo., St. Louis—Arctic Ice Co., 4268 N. Market St., capital \$16,000, incorporated; Sid D. Smith, Louis J. Portner.

Tex., Harlingen—C. W. Parson, Milam Bldg., San Antonio, reported, plans 1 story, 90x110 ft. dry ice plant; cost \$60,000.

Land Development

Ark., Blytheville—Creamery Package Co. develop 7000 acres southwest of Wilson in Mississippi County for small farms; surveys being made, roads opened; A. G. Little, Blytheville, interested; will expend about \$12,000 for houses and other improvements now.

Fla., Leesburg—W. R. Matthews Co., Inc., chartered; W. R. Matthews, J. L. Sheffer.

Fla., Melbourne—Harbor Properties, Inc., chartered; E. S. Hall, G. L. Singleton.

Fla., Miami—Bonita Corp. chartered; H. Sheddan, 230 S. W. 21st Road.

Fla., Miami—Southwest Section Corp. incorporated; S. R. Crawford, City Natl. Bank Bldg.

Fla., Miami—Ornamental Gardens, Inc., chartered; Wm. B. LaBaw, City Natl. Bank Bldg.

Fla., Miami—Franklin Properties, Inc., chartered; L. D. Breckenridge, Ingraham Bldg.

Fla., St. Petersburg—Arlington-Gulf Co. chartered; R. B. Lassing, 805 16th Ave., N. E.

Ga., Augusta—Augusta National Golf Club, Robert T. Jones, Jr., Pres., Atlanta Trust Bldg., Atlanta, having survey made by Elroy G. Smith, Herald Bldg., Augusta, starting survey on Berkmans property, Washington Road, for golf course; Dr. Alistair Mackenzie, golf architect; Olmstead Brothers, 99 Warren St., Boston, Landscape Architects, Berkmans Brothers, Augusta, associates; Thomas Barrett, Jr., V. P., Bon Air-Vanderbilt Hotel Corp., interested.

Ky., Adairville—K-M-D Land Co. incorporated; A. Garrett, Homer B. Davis.

Mo., Eagle Rock—Josia Watts, Kansas City, Kans., reported, construct summer resort on Roaring River in Barry County; construct dam to form lake; build 12 cabins; rebuild old grinding mill, etc.

Mo., Kansas City—Fred Bailey develop tourist camp and filling station on 20 acre tract, Highway No. 71, in Clay County.

Mo., St. Louis—High School Park Co. incorporated; Fred H. Ohmeyer, 5485 N. Union St.

Mo., St. Louis—Clayton-U City Realty Co. incorporated; M. T. Mephram, 4053 Flad St., St. Louis.

Tenn., Gatlinburg—Great Smoky Development Corp. incorporated; R. W. Ganlon, James M. Meek.

Tex., Beaumont—Earl C. Hankamer, Sour Lake, and Dr. H. E. Alexander, Beaumont, develop tract of 300 acres near Rosedale for home sites.

Va., Richmond—Southport Development Corp., capital \$50,000, incorporated; H. C. Redd, Ashland.

Va., Roanoke—Cliff View Corp., chartered; W. C. Weaver, American Natl. Bank Bldg.

W. Va., Martinsburg—Cumbo Fruit Co., capital \$100,000, incorporated; Lawrence P. Miller, F. L. Downey.

Lumber Enterprises

Fla., Jacksonville—Coney Lumber Co., capital \$25,000, chartered; W. S. Wightman, 2596 St. Johns Ave.

Ky., Glencoe—Crouch Lumber Co. incorporated; C. P. Crouch, Wt. P. Crouch.

Ky., Lexington—Bringardner Lumber Co., 1012 Fayette Bank Bldg., increased capital, \$700,000 to \$800,000.

S. C., Camden—Camden Lumber Co. incorporated; J. R. Belk, E. L. Mobley.

Tex., Overton—Overton Lumber Co., incorporated; H. B. Paggim, P. C. Collier.

W. Va., Summersville—Summersville Lumber Co., capital \$25,000, incorporated; F. W. Plumley, Barnesville, O.; James G. Morris, Zanesville, O.

Mining

Fla., Sarasota—Travertine Quarries, Inc., Louis J. Larson, Sec., 228 Central Park Court, develop 120 acres; install \$20,000 machinery. 7-16

Mo., Kansas City—Martin G. Torson & Co. incorporated; Martin G. Torson, 217 W. 67th St.

Va., Midvale—Midvale Manganese Corp., Marshall Hane, Const. Engr., Greer, developing Rockridge Manganese & Iron Co.'s property previously acquired; have completed 250 ft. of work, opened up several good deposits of ore; expect to complete 1000 ft. of development work to fully determine merits of property. 7-2-30

Miscellaneous Construction

Arkansas—U. S. Engr. Office, P. O. Box 667, Vicksburg, Miss., opens bids July 29 for 505,000 cu. yd. earthwork, south bank Arkansas River, Item 24, 772 ft. new levee, 400 ft. dike enlargement, 48,000 and 2000 cu. yd., respectively, average height, 22 ft.

Arkansas—See Memphis, Tenn.

D. C., Washington—Following have sub-contracts for D. C. World War Memorial: George W. Hanes, 1219 I St.; Biggs & Kirchner, Inc., 713 Sixth St.; Normal Campbell, 1319 Geranium St.; Fred S. Gicher Iron Works, 1214 24th St., all Washington; MacArthur Concrete Pile Co., 19 W. 44th St., and R. Gustavino Co., 225 W. 34th St., New York; Vermont Marble Co., Proctor, Vt.; James Baird Co., Inc., 1800 E St., N. W., Gen. Contr. 4-16

Fla., Key West—A. L. Parson, Chief, Bureau of Yards and Docks, Navy Dept., Washington, D. C., opens bids Aug. 5 for steel sheet pile bulkhead, groins, and crib at Naval station, including steel sheet pile bulkhead behind existing timber bulkhead and 2 rows of steel sheet piles with upper part of outer row encased in conc. and with conc. paving between 2 rows of piling; steel sheet pile groins with fill and conc. paving; reinforcing existing timber crib with steel sheet piling capped with conc.; fill on breakwater; \$180,000 appropriation.

Fla., St. Petersburg—Tampa Bay Ferry Co., Charles R. Carter, Pres., expend over \$300,000 for improvements, including approx. 2 mi. causeway and piers, extending deep water to permit boats to operate at maximum speed, and acquisition of 2 new high-speed boats with lounges and recreation decks; fill and piers will be of permanent conc. construction, and will form first link in continuous vehicular highway across bay, St. Petersburg to Manatee County, which firm ultimately plans to build under its franchise.

Louisiana—U. S. Engr. Office, foot of Prytania St., has low bids for 570,000 cu. yd. earthwork South Bank Red River levees, and 900,000 cu. yd. earthwork, Atchafalaya Front Levee Dist.: South Bank Red River Levees—Item S-92, Poland Levee, 230,000 cu. yd., Howard Kenyon Dredging Co., 3603 McKenney St., Houston, Tex., 8c per cu. yd.; Item S-83, Cologne Bend Levee, 340,000 cu. yd., Horton-Price Construction Co., El Dorado, Ark., 9.8c per cu. yd.; Atchafalaya Front Levee Dist.—Item R-851, Australia Point Levee, 900,000 cu. yd., Lewis-Chambers Construction Co., Inc., Canal Bank Bldg., New Orleans, 12.8c per cu. yd. 6-18

Maryland—Supt. of Lighthouses, Baltimore, has low bid from Merritt, Chapman & Scott, Fidelity Bldg., Baltimore, for riprap and sheet piling, Point Lookout lighthouse. 7-9

Mississippi—See Memphis, Tenn.

Missouri—See Memphis, Tenn.

Missouri—U. S. Engr. Office, McCall Bldg., Memphis, Tenn., opens bids Aug. 4 for 5000 lin. ft. bank protection, Mississippi River in vicinity of Island 18.

Mo., St. Louis—U. S. Engr. Office, 428 Customhouse, opens bids July 29 for approx. 500 to 1200 lin. ft. piling at Eliza Towhead, Ill., 1500 to 3000 lin. ft. at Commerce Island, Mo.; 500 to 1200 lin. ft. at Harlow Island, Mo., and 200 to 3500 lin. ft. at Wilson Island, Mo.

Okla., Oklahoma City—Retaining Walls—See Railways.

South Carolina—Constructing Quartermaster, Fort Bragg, N. C., opens bids Aug. 17 for monument at Cowpens Battlefield at Ezell; appropriation, \$12,500.

S. C., Orangeburg—Bureau of Fisheries, Washington, D. C., reported, start work within 2 weeks on \$25,000 improvements to double capacity of cultural station; soon call for bids for materials.

Tenn., Memphis—U. S. Engr. Office, McCall Bldg., opens bids July 30 for permeable pile dikes in Mississippi River: Item 1, 5700 lin. ft. below Island 35 Vicinity, Tenn., 197L mi. below Cairo, Ill.; Item 2, 3800 lin. ft., Hd. Vice President's Is. Vicinity, Tenn., 230L; Item 3, 4800 lin. ft. above Island 63 Vicinity, Miss., 329-330L.

Tenn., Memphis—U. S. Engr. Office, McCall Bldg., opens bids July 29 for permeable pile dikes: Item 1, 4200 lin. ft. Ruddles Pt. Vicinity, Mo., 85-87 miles below Cairo, Ill.; Item 2, 1300 lin. ft., Keyes Pt. Bar Vicinity, Tenn., 163L; Item 3, 10,300 lin. ft., Redman Pt. Vicinity, Ark. and Tenn., 218-20R&L.

Tenn., Memphis—U. S. Engr. Office, 1006 McCall Bldg., Memphis, Tenn., opens bids July 31 for about 7800 cu. yd. earthwork, Upper Yazoo Levee Dist.

Tex., Beaumont—City, W. Scott Hammond, Port Director, probably let contract to Sheet Piling, Inc., 17 John St., New York, for steel sheet piling, costing approx. \$30,000.

Tex., Happy—W. T. Townsend & H. Toles, Amarillo, let contract to Rochelle & Rochelle, Amarillo, at \$40,000, for 40,000-bu. grain elevator; 100 bu. per min. or 140,000 bu. daily maximum loading capacity.

Virginia—State Comsn. of Game & Inland Fisheries adopted resolution authorizing establishment of fish hatchery in Eastern Virginia for propagation of big mouthed bass and other fish; \$25,000.

West Virginia—U. S. Engr. Office, Huntington, opens bids July 31 for control and valve machinery, Marmet and London Locks, Kanawha River. 5-21

Miscellaneous Enterprises

Ark., De Queen—DeQueen Bee Co., incorporated; V. W. St. John, D. D. Clement; publishers, DeQueen Bee.

Fla., Hollywood—Hollywood Herald, Inc., Reese Combs, Pres., Leon Stetson, V. P., acquired Homestead Enterprise; install printing presses, linotype, complete printing equipment; American Type Founders, Jersey City, N. J., Equipment Contrs. 7-16

Fla., Miami—Tower Theater, Inc., chartered; A. B. Bernstein, Seybold Bldg.

Fla., New Smyrna—New Smyrna Breeze Publishing Co. incorporated; R. Boswell, P. W. Harvey.

Fla., St. Petersburg—See Miscellaneous Construction.

Fla., St. Petersburg—Parker Paper Co. chartered; N. W. Parker, 2220 19th Ave., S.

Fla., Tampa—General Mfg. Co. incorporated; H. E. Caswell, 706 Franklin St.

Fla., West Palm Beach—Roosevelt Aerial Advertising Co. chartered; C. S. Collar, F. W. Potter.

Ga., Atlanta—The Warren Co., V. P. Warren, Pres., 905 Fair St., S. E., constructing 3 story, brick, 60x80 ft. building for paint factory; comp. roof; paint machines for grinding will be moved from present building and that building will be used by Larkin Warren Refrigerator Corp., 915 Fair.

Ky., Carrollton—Rothschild Clothing Co., Louisville, E. A. Rothschild, Pres., 2110 Eastern Pkwy., Louisville, reported, leased former plant of Bray-Robinson Co.; will operate.

Ky., Grayson—Grayson Water Co., capital \$20,000, incorporated; Dr. J. Watts Stovall.

Ky., Louisville—Blue Rock Water Co. incorporated; Wright Barr, Heyburn Bldg.

Ky., Louisville—Henry Fischer Packing Co., 1860 Mellwood Ave., constructing \$30,000 addition to meat products plant; 70x90 ft.; 3 floors; fireproof; conc. floors; install \$30,000 equipment; steel and brick work completed; Carl T. Fischer, Archt.; Roy

Gatterdam, Ch. Engr.; install packing house machinery, kitchen and cafeteria equipment, etc. See Want Section—Building Materials, Miscellaneous. 7-16

Ky., Louisville—The Milk Bar incorporated; John Berger, 1406 De Barr St.

Ky., Richmond—Richmond Hotel and Building Co. increased capital, \$50,000 to \$70,000.

La., Hodge—Southern Advance Bag & Paper Co., Inc., Steve E. Michaud, advises regarding proposed paper mill, only plans have been made; no work started. 7-9

La., Monroe—Biedenharn Realty Co. let contract to L. E. Ellis, at \$14,407, for second story addition on rear of building occupied by Ouachita Coca Cola Co.; 90x100 ft., brick, built-up comp. roof; J. W. Smith & Associates, Ouachita National Bank Bldg.

Md., Baltimore—York Road Construction Co. incorporated; Richard D. Goldsborough, 5501 Craig Ave.

Md., Baltimore—Fidelity Engineering Corp., 2606 E. Chase St., incorporated.

Miss., Jackson—Dixie Glass Bottle Manufacturing Co., 303 New Merchants Bank Bldg., has low bid from Tom C. Scott, Capital Natl. Bank Bldg., for 54x275-ft. glass bottle plant; rein. conc. foundation; metal or asbestos roof; install three glass blowing machines, capacity 30 tons daily, from Toledo Engineering Co., Toledo, Ohio; \$100,000.

Mo., Chillicothe—Chillicothe Amusement Association, Inc., capital \$35,000; Vernon R. Crookshanks, Elmer C. Taft.

Mo., Jefferson City—D. M. Oberman Mfg. Co., (Clothing) reported, plans moving Springfield plant to city.

Mo., St. Louis—Central Co., incorporated; John K. Lord, Jr., Paul Brown Bldg.; construction.

Mo., St. Louis—Frank C. Rauchenstein Co., capital \$10,000, incorporated; Frank C. Rauchenstein, 235 S. Meramec St.; printing, publishing, binding.

N. C., Charlotte—Hart Mfg. Co., Inc., capital \$25,000, chartered; Harry S. Baum, 269 Hopedale Ave.

N. C., Charlotte—Bituminous Products Co., Inc., capital \$100,000, chartered; L. F. Abernethy, Hickory.

N. C., Durham—Kearney Mfg. Co., capital \$25,000, incorporated; M. W. Kearney, R. G. Kearney.

N. C., North Wilkesboro—C. C. Gambill purchased Wilkes Hatchery; improve.

N. C., Wilmington—Dow Chemical Co., Midland, Mich., C. A. Branson, Constr. Engr., Cape Fear Hotel, erecting experimental plant near Kure Beach for obtaining bromine from sea water; construction under direction of U. A. Underwood, Murchison Bldg., Wilmington; if process is successful permanent plant will be erected. 7-9

Okla., Tulsa—Tanna Mental Co., Enid, reported, plans moving plant from Enid; leased building, First St. and Detroit Ave.; manufactures throat gargle, etc.

S. C., Columbia—Borden Milk Co., 350 Madison Ave., N. Y., H. P. Fell, Ch. Engr., reported, investigating sites in Columbia for plant for manufacture dry milk by Dryco department of Dry Milk Co., 15 Park Row, N. Y., a subsidiary. 7-16

Tenn., Chattanooga—Tennessee Barber and Beauty Supply Co. chartered; Rudy A. Sa. train, 2 Sequoia Drive.

Tenn., Johnson City—United States Leather Co., 2 Park Ave., New York, reported, remodel, improve and operate local tannery.

Tenn., Nashville—Dixie Bottling Co., capital \$30,000, incorporated; G. H. Goebel, Haverford Ave.

Tex., Corpus Christi—H. A. Galt, Southern Alkali Corp., 535 Fifth Ave., N. Y., and Mgr. of Columbia Chemical Division of Pittsburgh Plate Glass Co., Barberton, Ohio, reported, announced plans for construction of \$10,000,000 chemical plant by the Southern Alkali Corp.; recently acquired 340 acres, Corpus Christi; has options on large supply of natural gas from nearby fields for fuel purposes and will begin building operations soon; ship channel from Corpus Christi bay to Southern Alkali corporation property to afford deep sea shipping facilities is contemplated; plant will manufacture soda ash, caustic soda and other products from raw material found in vicinity; corporation recently formed by Pittsburgh Plate Glass Co., 18 E. 40th St., New York, and American Cyanamid Co., 535 Fifth Ave., New York; H. E. Baldwin, Member of Local Industrial Committee; S. Maston Nixon, Chmn. 5-7

Tex., Dallas—Lloyd A. Fry Roofing Corp., incorporated; Lloyd A. Fry, 3630 Armstrong St.

Tex., Quanah—Gene Howe acquired Quanah Tribune-Chief.

Tex., San Antonio—Harry Hesel, Laredo and 423½ E. Laurel St., San Antonio, reported, establish plant, 408 Dolorosa St., for manufacture silk and rayon undergarments and pajamas.

Tex., San Benito—W. B. Symonds, Buffalo, N. Y., reported, submitted proposal to Chamber of Commerce for establishment of sisal binder twine plant; investment of \$75,000.

Va., Bristol—Bristol Granite & Marble Works, Inc., capital \$550,000, chartered; John M. Shireffs, Bristol Tenn.

Va., Charlottesville—J. P. Sensibaugh Co., Inc., capital \$40,000, incorporated; J. P. Sensibaugh; electrical equipment.

Va., Emporia—Emporia Nehi Bottling Co., capital \$15,000, incorporated; J. V. Moore, E. Ennis Ames.

Va., Fredericksburg—Plitts Dixie Theatre Co. chartered; Benjamin T. Pitts.

Va., Marion—Lincoln Theatres Corp., capital \$25,000, incorporated; C. C. Lincoln, Jr.

Va., Norfolk—Curtis Machine Co., Inc., capital \$25,000, incorporated; Geo. H. Curtis, Jr., 436 Mowbray Arch.

Va., Portsmouth—Proctor & Gamble Co., Ivorydale, Cincinnati, O., reported, plans to gradually increase size and output of plant recently acquired from Portsmouth Cotton Oil Co. 4-9

Va., Richmond—Seafood Products Corp., capital \$100,000, incorporated; Andrew J. Powell, 16 N. 17th St.

Motor Bus Lines and Terminals

Ark., Harrisonville—Arkansas Railroad Commr., Little Rock, approved application of Crown Coach Co. to acquire motor vehicle permit held by Snyder Transportation Co., operating passenger lines Joplin, Mo., and Fayetteville.

Ark., Hot Springs—Blue Bonnett Coaches, Inc., Broadway Ave., will have hearing July 30 before State Railroad Comsn., Little Rock, on application to run interstate motor bus lines Hot Springs to Kirby, Ben Lomond, Texarkana, Ashdown and Arkansas-Oklahoma Line.

Ark., Little Rock—Little Rock-Fort Smith Transportation Co., owned and operated by Wayne Stanfield, Booneville and E. L. Stantee, Festus, Mo., headquarters at Fort Smith; establish bus line between Little Rock and Fort Smith, via Perryville, Ola, Danville, Booneville, Greenwood and intermediate stations.

Fla., Orlando—City Council voted to extend franchise of Orlando Transit Co. for five years.

N. C., Burlington—Transportation, Inc., capital \$100,000, chartered; R. W. Barnwell, W. S. Coulter.

Okla., Tulsa—Ernest W. Smith, will have hearing July 29 before State Railroad Comsn., Little Rock, Ark., on application to operate motor freight line from Tulsa to State line and to Siloam Springs, Springdale, Fayetteville and Rogers.

Tex., Dallas—A. W. Ritter and associates, Terrell, purchased Dixie Motor Coach Co., with lines in north Texas and southern Oklahoma.

Railways

D. C., Washington—Pennsylvania R. R., W. W. Atterbury, Pres., Philadelphia, Pa., reported, let contract to Shoemaker Bridge Co., Pottstown, Pa., for 145 tons struc. steel in connection with electrification program. (See Baltimore, Md., 7-9.)

Ga., Atlanta—Georgia Power Co. started extending West Hunter St. trolley line about ½ mi., Ashby St. to Louisville Ry., consisting of double track for 800 ft. and single for 1782 ft.

Md., Baltimore—Pennsylvania Railroad, W. B. Wood, Engr. in Charge of Baltimore Improvements, Pennsylvania Station, Baltimore, let contract to Arundel Corp., Pier 2, Pratt St., for Broadway bridge; to Empire Construction Co., 31 S. Calvert St., for track raising between Franklin St. and Gwynns Falls; plans being rushed on proposed new Union tunnel, so that start of preliminary bridge construction will be closely followed by actual work on tunnel project itself; it is planned that excavations for tunnel and other initial work on tube project will begin latter part of August, on rapid construction schedule, entire tunnel north of Pennsylvania Station to be completed by end of December, 1932; tunnel proper to be about 3400 ft. long and lowest point 55 ft. below street; ask for bids within next few weeks for bridges at Gay St., Preston and Wolfe Sts. and at Biddle and Washington Sts.; plan starting construction on these before end of July. 7-9

Md., Baltimore—Pennsylvania R. R., W. W. Atterbury, Pres., Philadelphia, let contracts in connection with electrification program: catenary foundations between Baltimore, and Washington, D. C., Arundel Corp., Pier 2, Pratt St., Baltimore, \$742,000; catenary foundations between Perryville, Md., and Baltimore, John F. Casey Co., Aspinwall, Pittsburgh, Pa., \$529,000; multiple duct under conduit system between Loudon Park, Baltimore, and New York Ave., Washington, Arundel Corp., \$434,500; multiple duct underground conduit system between Havre-de-Grace, Md., and Back River bridge, near Back River station, on Maryland division, James McGraw Co., Government Ave. and W. Broad St., Philadelphia, Pa., \$383,000; multiple duct underground conduit system between West Yard, Wilmington, Del., and Perryville, Md., \$404,000, Vane Construction Co., Broad and Vine Sts., Philadelphia, Pa. 7-9

Mo., St. Louis—Missouri Pacific R. R. Co., L. W. Baldwin, Pres., ordered 2 75-ft. gas-electric rail motor cars from St. Louis Car Co., 8000 N. Broadway, to be powered with 400-h. p. power plants supplied by Electro-Motive Co., 8000 N. Broadway.

Okla., Oklahoma City—Atchison, Topeka & Santa Fe Ry., H. W. Wagner, Ch. Engr., Eastern Lines, Topeka, Kan., opens bids July 27 for 11 underpasses and retaining walls, est. \$1,500,000, in track elevation program; construct conc. retaining walls along each side of tracks at average of 16 ft. in height; walls will hold earth for elevation. 7-9

Tex., Fredericksburg—Gulf & West Texas Ry. Co., subsidiary of Southern Pacific Co., R. W. Barnes, Ch. Engr., Lines in Texas & Louisiana, Houston, applied to Interstate Commerce Comsn., Washington, D. C., for permission to construct extension from connection with San Antonio & Aransas Pass where it crosses Guadalupe River to Fredericksburg, 28.6 mi.

Tex., Shamrock—Fort Worth & Denver Northern Ry., subsidiary Chicago, Burlington & Quincy Ry. Co., A. W. Newton, Ch. Engr., Chicago, Ill., calling for bids for line, Shamrock to Wellington, 114 mi.; contracts signed for right of way. 5-28

Railway Shops and Terminals

Okla., Boise City—Atchison, Topeka & Santa Fe Ry., G. W. Harris, Ch. Engr., Chicago, Ill., let contract to Sharp & Fellows Construction Co., 533 Central Bldg., Los Angeles, Calif., for 6-stall, brick engine house with boiler room annex.

Roads, Streets and Paving

In connection with LAND DEVELOPMENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

Proposed Construction

Ala., Birmingham—Jefferson County, W. E. Corning, Commr., expend approx. \$100,000 for paving 2 sections of roads, conc., asphalt or brick; may use convict labor.

Ala., Montgomery—Office of Constructing Quartermaster, Maxwell Field, has low bids for roads, drains, sanitary sewers and water mains: Item 1, Rad Batson Co., Inc., Birmingham, \$69,044; Item 2, Hornbuckle Construction Co., Standard Bldg., Atlanta, Ga., \$20,900; Item 3, Carey-Reed Co., 613 Guaranty Bldg., Lexington, Ky., \$5871; Item 4, Rad Batson Co., Inc., \$13,270; Item 5, A. J. Honeycutt Co., Martin Bldg., Birmingham, \$18,569. 7-2

D. C., Washington—See Bridges, Culverts and Viaducts.

Fla., Miami Beach—City, Ed. R. Neff, City Engr., let contract to Robt. G. Lassiter & Co., S. W. 27th St., Miami, for oiling streets; to M. E. Comer Bridge & Foundation Co., 1000 N. W. North River Drive, Miami, for sanding; other work to be done by city forces.

Georgia—State Highway Bd., J. W. Barnett, Chmn., Atlanta, opens bids July 28 for 3.25 mi. surface course, Jasper County, Monticello-Covington road, Monticello to 3.25 mi. north, SAP 193-A, 12,340 tons cold mix asphalt surfacing.

KENTUCKY—State Highway Comsn., H. D. Palmore, Engr., Frankfort, has low bids

for 5 roads (grading, draining) in following counties:

Breathitt—7.955 mi., Jackson-Salyersville road, FR 5 AG, Hart Construction Co., Whitesburg, \$60,344;

Carroll—2.682 mi. surfacing, Carrollton-Warsaw road, FA 198 B-S, Gorrell, Barrow & Kirkpatrick, Russellville, \$56,149;

Fleming—14.630 mi., Flemingsburg-Morehead road, SP 68 B-G, Phelps Construction Co., \$81,536 (awarded);

Rawson—8.470 mi. grading, draining, Morehead-Flemingsburg road, FR 69 AG, Phelps Construction Co., \$104,238. 6-18

LOUISIANA—State Highway Comsn., O. K. Allen, Chmn., Baton Rouge, has low bids for 32 roads (concrete except as otherwise designated) totaling approx. \$3,000,000, in following parishes:

Catahoula-Concordia—16.988 mi., between Sicily Island and intersection of Routes 3 and 15, S. R. Johnson Co., Toledo, Ohio, \$298,974;

Sabine—5.3 mi., between Zwolle and Noble, Sullivan, Long & Hagerty, Bessemer, Ala., \$96,981;

St. Landry-Evangeline-Acadia—11.573 mi. grading, draining, Eunice-Basile Highway, Swinney & Coleman, Opelousas, \$84,681;

St. Landry-Pointe Coupe—15.2 mi. grading, draining, between Livonia and intersection of Route 7 with 1252, Gauger Construction Co., 910 Fidelity Bank Bldg., Memphis, Tenn., \$271,735;

Bineville—3.206 mi., through Ringgold east and west, Sullivan, Long and Hagerty, \$57,531; 2.11 mi., through Arcadia north and south, Sullivan, Long and Hagerty, \$40,130;

De Soto—4.697 mi., Highway between Logansport and Longstreet, Sullivan, Long and Hagerty, \$90,168; 3.284 mi., Highway between Mansfield and Sodus, N. V. Duncan, 1125 Michigan Ave., Chicago, Ill., \$67,136;

Red River—11.236 mi., between Caddo Parish line and Grand Bayou, A. C. Campbell, Winnfield, \$237,070; 11.412 mi., between Grand Bayou and Hanna, A. N. Goldberg, Inc., Louisiana Bldg., New Orleans, \$218,780;

Sabine—3.626 mi., through Sodus, north and south, N. V. Duncan, \$84,745;

Calcasieu—7.8 mi. asphaltic surface treatment, Lake Charles-Sulphur Highway, N. P. Turner, Marshall, Tex., \$8630;

Orleans—1.688 mi. grading, asphalt surface treatment on approaches to Industrial Canal bridge, Walter P. Villere, New Orleans, \$103,532;

St. Martin—25.07 mi. asphalt surface treatment, St. Martinsville-Breaux Bridge-Cecelia Highway, Highway Engineering & Construction Co., Selbyville, Ind., \$306,248;

St. Tammany—11.6 mi. asphaltic surface treatment, between Covington and Bush, Kentucky Road Oiling Co., Louisville, Ky., \$97,297;

Natchitoches—4.843 mi. gravel, between Ashland and Red River Parish line, Wimberly Construction Co., Arcadia, \$25,636;

Terrebonne-Lafourche—7.101 mi. shell, between Bourg and Larose, J. B. LeBlanc Construction Co., Inc., and N. H. DeBretton, 360 N. 12th St., Baton Rouge, \$59,570;

De Soto-Natchitoches—3.898 mi. gravel, between Pleasant Hill and Lake End, C. E. Collins, Natchitoches, \$34,870;

Vermilion—5.70 mi. shell, between Erath and Intracoastal Canal, I. M. Goldberg, Abbeville, \$25,997;

Caldwell—9.159 mi. gravel, between Kelly and Sikes, J. W. McKeithen, Grayson, \$49,796;

Catahoula—4.484 mi. gravel, between Guicefield and Nickel, N. A. Russell, Afton, \$3129;

West Carroll—5.885 mi. gravel, between Killbourne and Concord school, Leathers & Martin, Alexandria, \$26,428;

Richland-Franklin—7.138 mi. gravel, between Liddleville and Alto, Leathers & Martin, \$46,843;

Evangeline—5.952 mi. gravel, between Point Blue and Prairie Ronds, Lehayne & Bertrand, Ville Platte, \$22,949;

Richland—9.7 mi. gravel, between Stark and Columbia, Hemmington Bros., Tallulah, \$25,810;

Richland-Caldwell—6.864 mi. gravel, between Stark and Columbia, J. J. McKeithen, Grayson, \$33,413;

Beauregard—7.490 mi. gravel, between Dry Creek and intersection with Route 22, Leathers & Martin, \$26,328;

St. Landry—4.101 mi. gravel, between Washington and intersection with Route 214, T. W. Kleinpeter, Baton Rouge, \$15,471;

Jefferson-St. Charles—10.801 mi. subgrade treatment with shell, Airline Highway between Norco and Kenner, Caldwell Bros., 816 Howard Ave., New Orleans, \$51,865;

Livingston—6.067 mi. gravel, between Doyle and Springfield, Leathers & Martin, \$52,252;

Union—7.563 mi. gravel, between Marion and Huttig, R. C. Webb & Forgt, Hanson & McCorkle, Delta, \$73,807;

Catahoula—8.94 mi. gravel, between Harrisonburg and Enterprise, J. B. LeBlanc Construction Co., Inc., and N. H. DeBretton, Baton Rouge. 6-18

La., Alexandria—Rapides Parish Police Jury adopted resolution authorizing construction of graded road, Ward 10, 6 mi., from road at point near U. S. veterans' hospital between Rigolette swamp and Red River, to Bayou Darrow bridge.

La., Alexandria—City Council rejected bids for paving. 6-18

La., Bastrop—Morehouse Parish Police Jury authorized J. Lester White, Parish Engr., to call for bids for about 1 1/4 mi. road, Ward 10, Proj. 7; bids to be opened at August meeting of jury.

La., New Orleans—City, Dept. of Public Finances, Office of City Pur. Agt., take new bids for rein. conc. paving on lower Third St.; let contract to B. J. Carbo for paving 25th St.

La., St. Francisville—Town, Mayor and Bd. of Aldermen, Jas. H. Kilbourne, Clk., opens bids Aug. 11 for paving.

La., Tallulah—Madison Parish Police Jury opens bids Aug. 5 for 4.5 mi. earth road embankment, culverts and 2 small bridges; P. O. Benjamin, Engr. in charge of roads.

MARYLAND—State Roads Comsn., L. H. Steuart, Sec., Baltimore, has low bids for 7 roads in following counties:

Baltimore—20.02 mi. cons., Greenspring Ave., Garrison Ave. toward Baltimore City, B-188-44, G. & L. Contracting Co., 3509 Northern Parkway, Baltimore, \$35,658;

Calvert—1.90 mi. gravel, Chaneyville toward Patuxent River, C-51-82, Thomas Mullan, 3945 Greenmount Ave., Baltimore, \$15,635;

Carroll—2.13 mi. resurfacing with penetration macadam, Liberty Road, Eldersburg toward Taylorsville, Cl-98-11, E. Edgie Russell Co., Frederick, \$9853;

Harford—.83 mi. macad., Aldine road, Havre de Grace to State road, H-125-42, P. Reddington & Son, 2 E. Lexington St., Baltimore, \$14,605;

Harford-Baltimore—1.30 mi. conc., Jarrettsville-Baldwin road toward Baldwin, H-128-42, B-209-42, Harry T. Campbell Sons Co., Towson, \$46,511;

Montgomery—.75 mi. conc., Lawtonville-Woodfield road toward Woodfield, M-100-52, Caton Construction Co., Halethorpe, \$19,112;

Wicomico—1.2 mi. along east approach to Vienna bridge, Wi-78-17, Layfield & Waller, Salisbury, \$16,558. 7-9

MARYLAND—State Roads Comsn., L. H. Steuart, Sec., Baltimore, opens bids July 28 for 5 roads in following counties:

Calvert—1.86 mi. gravel, Prince Frederick-Port Republic road toward Bowens, 47-82; 1.30 mi. gravel, Lower Marlboro road toward Huntington, 53-82;

Charles—.99 mi. gravel, Grayton toward Ironsides, Ch-107-84;

Harford—.75 mi. macad., Belair Forrest Hill road toward Forrest Hill, H-132-42;

Wicomico—2.90 mi. conc. shoulders, Salisbury toward Princess Anne, 81-111.

Md., Baltimore—City, Nathan L. Smith, Highways Engr., opens bids July 29 for Alley Cont. 145, 11,000 sq. yd. cement conc.

Md., Laurel—City, J. H. Fetty, Mayor, opens bids July 27 for approx. 1 mi. conc. sidewalk.

Md., Towson—Baltimore County Commrs., John R. Haut, Ch. Clk., opens bids July 28 for street improvement: Group 3, conc. shoulders on Edmondston Ave., end of present conc. shoulders, 1250 ft. west (1st Dist.); Group 4, conc. shoulders on Moffett Ave., end of present conc. shoulders, 1000 ft. south (15th Dist.); Group 5, 20-in. conc. curb and conc. paving, Leeds Ave., Wilkins Ave. south 1600 ft. (13th Dist.); Jackson P. Grason, Roads Engr.

Miss., Meridian—City Council let contract to Dunn Construction Co., Lincoln Life Bldg., Birmingham, Ala., for bitulithic pavement on 41st St., at \$5000; to Cobb Bros. Construction Co., Meridian, at approx. \$35,000 for remainder of paving, using Margerium limestone asphalt on black base, curb and gutter; to Brannin Bros., Meridian, for storm sewers; John Watts, Engr.

MISSOURI—State Highway Comsn., T. H. Cutler, Ch. Engr., Jefferson City, opens bids July 31 for 49 roads and 26 bridges, involving approx. \$2,000,000, in following counties:

Buchanan—3.572, 3.087 mi. graded earth, Route 1 through Frazier, 27,795 cu. yd. excavation, SE-1, SE-2;

Putnam—4.974, 4.856, 4.822 mi. graded earth, Lucerne-Unionville, 414,901 cu. yd. excavation, 1126 cu. yd. conc. in culverts, 2881 cu. yd. in bridges, 519,400 lb. struc. steel bridge over C. M. & St. P. R. R. and Medicine Creek overflow; 5 I-beam bridges, 2 double box bridges, 4-42, 4-43, 4-44;

Schuyler—4.494, 4.423, 2.023 mi. gravel, Lancaster-Scotland County line, 95,865 cu. yd. excavation, 13,640 cu. yd. pavement, I-beam bridge, 4-62, 4-63, 4-64;

Clay—2.752 mi. graded earth, Liberty east, 26,700 cu. yd. excavation, Ref. 4;

Henry—4.782, 4.556, 4.958 mi. chats, Deepwater west, 107,934 cu. yd. excavation, 16,856 cu. yd. pavement, 3 deck girder and 1 double box bridges, 52-13, 52-14, 52-15; 3,102, 2,315 mi. gravel, Leeton-Windsor, 6776 cu. yd. pavement, 2-4A, 2-5A;

Johnson—2.271 mi. gravel, Route 13-Leeton, 2852 cu. yd. pavement, 2-2; 2,453 mi. gravel, 3077 cu. yd. pavements, 2-3A;

Lafayette—3.729 mi. gravel, Mayview-Route 40, 594 cu. yd. excavation, 3537 cu. yd. pavement, SE-1; 1,969 mi. gravel, Aullville-Route 40, 1130 cu. yd. excavation, 1910 cu. yd. pavement, ST-1;

Platte—3.042, 3.106, 1.970 mi. crushed stone, Dearborn-Edgerton, 8443 cu. yd. excavation, 7212 cu. yd. pavement, SZ-1, SZ-2, SZ-3A;

Boone—1.610 mi. shale or crushed stone, Fayette-Harrisburg, 2235 cu. yd. pavement, SC-6A;

Howard—0.906, 5.000, 1.989, 0.865, 1.599 mi. shale or crushed stone, Fayette-Harrisburg, 24,920 cu. yd. pavement, SC-1A, SC-2A, SC-3A, SC-4A, SC-5A;

Camden—2.204 mi. gravel, Gravois Mills-Camdenton road, 6381 cu. yd. excavation, 2146 cu. yd. pavement, 5-66;

Moniteau—0.486 mi. gravel, California-El-don, 14,688 cu. yd. excavation, 438 cu. yd. pavement slab bridge, SJ-1A;

Osage—4.979, 1.568 mi. gravel, Linn to Belle, 20,640 cu. yd. excavation, 5167 cu. yd. pavement, SD-1, SD-2;

Iron—3.575 mi. gravel, Route 21-Madison County line, 12,213 cu. yd. excavation, 3347 cu. yd. pavement, double box bridge, Ref. 2, SE-2;

St. Louis—0.192 mi. bridge of Meramec River, 3 130-ft. deck trusses, 9 60-ft. deck plate girders, 3 20-ft. deck plate girders, 2277 cu. yd. conc., 1,364,230 lb. struc. steel, 66TR-6;

Jasper—2.179 mi. 20-ft. conc., Carthage-Neosho, 4350 cu. yd. excavation, 26,338 sq. yd. pavement, 71AP-117A;

Newton—3.698, 3.676, 3.167 mi. 20-ft. conc., Carthage-Neosho, 20,724 cu. yd. excavation, 121,756 sq. yd. pavement, 71-AP-118A, 71AP-119A, 71AP-120A;

St. Clair—4.079, 2.770 mi. gravel, Eldorado Springs-Osceola, 113,079 cu. yd. excavation, 545 cu. yd. conc. in culverts, 1054 cu. yd. in bridges, 380,470 lb. struc. steel, 8445 cu. yd. pavement, I-beam, double box and slab bridges, 82-6, 82-7; 4.772 mi. gravel, Lowry City-Appleton City, 7574 cu. yd. excavation, 4495 cu. yd. pavement, SA-3;

Christian—3.873 mi. crushed stone, Chadwick-Garrison, 3315 cu. yd. excavation, 2045 cu. yd. pavement, SA-3;

Hickory—2.784 mi. crushed stone and gravel, Hermitage to Nemo, 3507 cu. yd. excavation, 1148 cu. yd. pavement, Rev. 1;

Stone—2.195 mi. gravel, Reeds Springs-Route 65, 34,430 cu. yd. excavation, 2189 cu. yd. pavement, 2 double box bridges, 76AP-1;

Taney—1.238, 0.271 mi. gravel, Branson-Hollister, 40,054 cu. yd. excavation, 6742 cu. yd. conc. in bridges, 16,300 struc. steel, 1163 cu. yd. pavement, 2 deck girder bridges, 65-115A, 65-116A;

Reynolds—4.653 mi. gravel, Ellington south, 68,787 cu. yd. excavation, 6301 cu. yd. pavement, 21-29;

Shannon—3.847, 3.559, 2.976 mi. gravel, Eminence-Winona, 153,844 cu. yd. excavation, 59,700 lb. struc. steel, 394 cu. yd. conc. in bridges, 9821 cu. yd. pavement, 2 double box and 1 I-beam bridges, 19-42, 19-43, 19-44;

Cape Girardeau—0.879 mi. gravel at Appleton, 25-18A, 11,016 cu. yd. excavation, 119,680 lb. struc. steel, I-beam and truss bridge, 25-18A;

Stoddard—4.697 mi. gravel, Hunterville south, 33,105 cu. yd. excavation, 4425 cu. yd. pavement, SA-2.

Mo., Clayton, St. Louis—St. Louis County, Roy Jablonsky, Highway Engr., opens bids July 29 for improving several roads and streets.

Mo., St. Louis—City, Bd. of Public Service, has low bids for paving: Section of Gravois Ave., Trinidad Asphalt Mfg. Co., 600 S. Teresa St., \$160,686; another section Gravois, Bridges Asphalt Paving Co., 1411 Central Industrial St., \$128,336.

Mo., St. Louis—City, Bd. of Public Service, 208 City Hall, opens bids Aug. 11 for lettings 4305 to 4314, for improving and reconstructing certain streets.

Mo., Fulton—City expend \$15,000 for street improvements. See Financial News Columns.

Mo., Kansas City—City, Matthew S. Murray, Dir. of Public Works, has low bid from Boyle Construction Co., 7601 Myrtle St., at \$80,502, for paving Brooklyn Ave.

Oklahoma—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, soon let contract for 10 mi. paving, Highway 64, Warner road.

Texas—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, plans 9.1 mi. regreaveling, widening base and road oil treatment, Highway 64, 5.5 mi. west of Neches River to 2.6 mi. east of Ben Wheeler, \$22,800.

TEXAS—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, considering 7 additional bridges for letting, July 30, 31 and Aug. 1, in following counties:

Potter—143 f., rein. conc., Amarillo Creek bridge, Highway 5, FAP 162-N Reop.;

Reeves—161 ft., steel, conc. and treated timber bridge, Highway 1, M-6-L-3; 441 ft. steel, conc. and treated timber, Screw Bean Arroya, Highway 17, FAP 607-D;

Robertson—1003 ft., steel, conc. and treated timber, 7 bridges, Highway 43, F582-C;

Trinity—1040 ft., steel, conc. and treated timber, Tantaquoque Creek and 2 reliefs, Highway 19, FAP 225-Reop.;

Wharton—143 ft. rein. conc., G. H. & S. A. R. R. overpass, Highway 12, FAP 518-D;

Wheeler—1550 ft., steel and conc., C. R. I. & P. R. R. overpass, Highway 75, FAP 547-F. (See Roads, Streets and Paving, 7-16.)

Tex., Beaumont—City Comsn. opens bids July 27 for street paving, sidewalks and drainage for South Texas State fairgrounds.

Tex., Brackettville—Kinney County expend \$150,000 for completion of county road program and for completion of Highway 3, Brackettville to Uvalde County line.

Tex., Edna—Jackson County, reported, voted \$1,150,000 road construction bonds.

Tex., Houston—City, J. M. Nagle, City Engr., has low bids for paving: Houston Ave., 6-in. conc. base and 2-in. asphalt surface, National Paving Co., 112 Buffalo St., \$36,607; Melnar St., in connection with Southern Pacific passenger station project, asphalt-conc., National Paving Co., \$7207.

Tex., Marshall—City Comsn. approved paving of 7 streets.

Virginia—State Dept. of Highways, C. S. Mullens, Engr., Richmond, has low bid from Hall & Mitchell, Keswick, at \$12,136 for .637 mi. 1-course macad., Route 175; at \$9,445, for alternate on gravel. 7-9

Va., Roanoke—City Council approved proposition for paving Norfolk Ave.

WEST VIRGINIA—State Road Comsn., George L. White, Sec., Charleston, opens bids July 28 for 8 roads and 8 bridges in following counties:

Greenbrier—Caldwell Bridge No. 1280, Proj. 3505, conc. substructure consisting of 2 piers and 2 abutments;

Jackson—Big Run Bridge No. 1278, Proj. No. 1278, Proj. 3413, 50-ft. I-beam span on Ashlar masonry substructure, both to be let in one contract;

Mineral—New Creek Bridge No. 1232, Proj. 3010, three 40-ft. conc. deck girder spans;

Monroe—Red Mill Bridge No. 1284, Proj. 3462-A, 50-ft. I-beam span superstructure on conc. substructure; both in one contract;

Ritchie—Dye Bridge No. 1268, Proj. 143C, conc. arch, 90-ft. span; Carpenter Bridge No. 1269, Proj. 143-D; Wilson Bridge No. 1270, Proj. 143-D;

Barbour—11.78 mi. grading, draining, Belington-Nestorville road, Proj. 3493;

Boone—14.45 mi. surface treatment, Whitesville-Racine road, Proj. 3091-3205 and part of 3104;

Harrison—5.89 mi. grading, draining, Clarksburg-Wolf Summit road, Proj. 185-B;

Jefferson—1.76 mi. grading, conc. paving streets in Charles Town and Ranson, Proj. 3519;

McDowell—6.61 mi. grading, draining, Roderfield-Indian Creek road, Proj. 190-A;

Nicholas—21.57 mi. surface treatment, Summersville-Braxton County Line road, Proj. 159-160-A and 3293-B;

Wyoming—5.08 mi. grading, draining, Elmore-Herdon road, Proj. 1054; 6.72 mi. grading, draining, Jesse-Oceana road, Proj. 3485-B.

Contracts Awarded

GEORGIA—State Highway Bd., J. W. Barnett, Chmn., Atlanta, let contracts for 23 roads and 14 bridges, totaling \$2,750,000, in following counties:

Bacon—7.994 mi. limerock surface treatment, Douglas-Alma Highway, Broadbent Construction Co., 216 N. Magnolia St., Ocala, Fla., \$173,216;

Baldwin—0.8, 9.8 mi. limerock surface treatment, Milledgeville-Sandersville Highway, H. S. Dunn & Sons, Dawson, \$179,068;

Bryan—5.47 mi. paving, Statesboro-Savannah Highway, Davis Construction Co., Rhodes-Haverty Bldg., Atlanta, \$125,709;

Carroll—8.312 mi. grading, bridge, Douglasville-Birmingham Highway, W. C. Shepherd, 347 Elizabeth St., N. E., Atlanta, \$90,166;

Chattahoochee—6.658 mi. paving, 3 bridges, Cusseta-Richland Highway, Whitley Construction Co., Atlanta, \$133,600;

Cherokee—4.94 mi. grading, Canton-Marietta Highway, M. R. Woodall Co., Walton Bldg., Atlanta, \$56,819;

Coffee—6.759 mi. limerock surfacing, Douglas-Alma Highway, John Monahan, Pelham, \$48,600;

DeKalb—5.82 mi. conc., Avondale-Covington Highway, Davis Construction Co., \$99,634;

Early—widening bridge, Donaldsonville-Dothan Highway, D. B. Scott, Decatur, \$35,177;

Floyd—2.2 mi. paving, Rome-Lindale Highway, bids rejected;

Franklin—5.206 mi. conc., Royston-Danielsville road, Davis Construction Co., \$111,428;

Fulton—asphalt surfacing material to widen Stewart Ave., Atlanta to Hapeville, Sam E. Finley, 292 North Ave., N. W., Atlanta, \$34,650;

Grady—widening 2 bridges between Thomasville and Cairo, D. B. Scott, Decatur, \$72,711;

Haralson—5.65 mi. grading, Douglasville-Birmingham Highway, E. A. Hudson Sons, Bolton, \$63,926; 4.7 mi. grading, Douglasville-Birmingham Highway, R. F. Smith, Macon, \$50,942; 4.25 mi. grading, Douglasville-Birmingham Highway, R. F. Smith, \$54,110; 3.9 mi. grading, Douglasville-Birmingham Highway, R. F. Smith, \$55,743;

Henry—12.23 mi. conc., Atlanta-McDonough Highway, Davis Construction Co., \$175,213;

Lee-Terrell—9.743 mi. Dawson-Albany Highway, Van Gordon Construction Co., \$159,634;

Montgomery-Toombs—8 mi. grading, Alamo-Vidalia Highway, Newell Contracting Co., Martin Bldg., Birmingham, Ala., \$49,234;

Morgan—overhead bridge near Madison, Madison-Athens Highway, Austin Bros. Bridge Co., 1195 Mickelberry St., S. W., Atlanta, \$97,241;

Richmond—grading, bridge on highway between Augusta and Aiken, S. C., Mallory & Nash, Hurt Bldg., Atlanta, \$89,499;

Schley—2 bridges, Ellaville-Butler Highway, Davis & Co., Moultrie, \$18,140;

Stephens—4.408 mi. conc., Toccoa-Senecos, S. C., Highway, Roberts Paving Co., Salisbury, Md., \$93,637;

Stewart—6.181 mi. conc., Richland-Cusseta Highway, Van Gordon Construction Co., Jacksonville, Fla.;

Upson—5.614 mi. conc., Thomaston-Zebulon Highway, Davis Construction Co., \$112,380;

Wheeler—7.646 mi. grading, 3 bridges, Alamo-Mt. Vernon Highway, Newell Contracting Co., \$79,272;

Wilkes—10.106 mi. grading, bridge, 5.025 mi. conc., Athens-Washington Highway, Davis Construction Co., \$127,300. 7-2

KENTUCKY—State Highway Comsn., H. D. Palmore, Engr., Frankfort, let contracts for 5 roads, totaling \$192,237, in following counties:

Fleming—9 mi. conc., Fields Highway through Flemingsburg, Irvine Construction Co., Irvine, \$23,328;

Casey—6.7 mi. grading, draining, Liberty-Campbellsville road, Phelps Construction Co., Somerset, \$69,104;

Hardin—7.2 mi. traffic-bound limestone, Cecilia-Ventress road, Mercy & Cistler, Caldwell, Ohio, \$24,992;

Monroe—6.1 mi. grading, draining, Thompsonville-Edmonton road, J. A. Sutherland Co., 166 Eighth Ave., N., Nashville, Tenn., \$46,214;

Washington—11.5 mi. traffic-bound limestone, Springfield-Perryville road, Gay-Coleman Construction Co., Ashland, \$50,406. 6-18

La., New Orleans—See Proposed Construction.

Mo., Clayton, St. Louis—St. Louis County Court, Roy Jablonsky, Highway Engr., let contracts for road improvement totaling \$203,126: Etherton road, 19,849 ft. grading, C. P. O'Reilly Co., Wainwright Bldg., \$54,202; Baldwin road, 12,325 ft. laid with gravel, O'Reilly Construction Co., \$37,811; Telegraph road, 18,231 ft. to be laid with 20-ft. conc., Independent Quarry & Construction Co., 3550 Chouteau St., \$132,851; Centaur road, 6908 ft. 20-ft. conc., Bangert Bros. Construction Co., 44a S. Florissant St., \$30,545; Oak St., gravel, C. P. O'Reilly Co., \$16,060; Laclede Station road, 559 ft. 20-ft. conc., C. M. Berry Construction Co., \$51,371; Central Ave., Eureka, 3400 ft. conc., W. F. Smith & Co., 6635 Delmar St., all St. Louis, \$26,440.

Okla., Oklahoma City—Oklahoma County let contract to Western Paving Co., Petroleum Bldg., at \$24,786, for 16 mi. graveling.

Okla., Oklahoma City—City, T. A. Montague, Clk., let contract to W. L. Hamit, 2100 N. Broadway, for paving in Dist. 11 and 12, Nichols Hills.

North Carolina—Hobbs-Peabody Construction Co., Builders Bldg., Charlotte, has contract for highway construction in Rutherford County, at approx. \$50,000, includes 11 culverts and 3 bridges.

South Carolina—State Highway Dept., Ben M. Sawyer, Ch. Highway Commr., Columbia, let contract to Weston & Brooker Co., Cayce, S. C., for 509 tons crushed stone for bridge surfacing.

Sewer Construction

Sewer construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported.

Ala., Montgomery—See Roads, Streets and Paving.

Ark., Little Rock—W. F. Moody & Co., A. O. U. W. Bldg., and Grady Garms, Rector Bldg., have contract for new Federal building sewer and north section of town branch sewer.

D. C., Washington—Peter D'Adamo Construction Co., Old Town Natl. Bank Bldg., Baltimore, Md., reported, has contract for 24th St. storm water sewer, Tilden St. service sewer; Roy D. Schlegel, 1734 Connecticut Ave., N. W., for service sewer.

Ky., Louisville—City Commission received low bid on sewer work: From George M. Eady Co., 340 Byrne St., at \$67,430, for portion of Garden Drive project; 4.7 mi. drain involved to cost \$1,440,000; open bids weekly until last of August.

La., Barksdale Field, Shreveport—Fargy-Hanson & McCormick, Lake Charles, Gen. Contr. for sewers, reported, let contract to United States Pipe & Foundry Co., Birmingham, Ala., for 350 tons various sizes sewer pipe. 6-4

Md., Baltimore—Bd. of Awards receives bids July 29 for sewers, Storm Water Contr. 168.

Md., Baltimore—Marine Contg. Co., 305 N. Exeter St., reported, low bidder at \$48,428 for sewers, Storm Water Contr. 167. 7-9

Md., Cumberland—City, Ralph L. Rizer, City Engr., receives bids July 27 for constructing sewers. See Want Section—Bids Asked.

Miss., Meridian—See Roads, Streets and Paving.

Mo., St. Louis—Bd. of Public Service, 208 City Hall, opens bids Aug. 11 for sewers: Letting 4201, Rock Creek Sewer Dist. 19; 4302, Warne Avenue Sewer Dist. 12; 4303, Baden Sewer Dist. 8; 4304, Baden Sewer Dist. 9.

N. C., Winston-Salem—City, Harry L. Shaner, Commr. Public Works, advises extension to sewage system authorized to serve South Side section; bonds to finance work not sold. 7-16

S. C., Greenville—Greater Greenville Sewer Comsn., T. C. Gower, opens bids Aug. 11 for construction of sewers in Northgate Heights, Parker and Augusta Road sub-division; 412,000 ft. terra cotta and cast iron pipe. 7-16

Tenn., Chattanooga—City, Richard W. Dugger, Sec., advises sewerage system for Brainerd held up indefinitely; State Legislature did not authorize \$200,000 bonds; W. H. Wilson, City Engr. 6-18

Tenn., Maryville—City, W. H. Willard, Judges, votes Aug. 3 on issuing \$20,000 bonds for installing sanitary sewers.

Tenn., Memphis—City, Wm. B. Fowler, City Engr., advises nothing definite regarding sewer in Bethel Grove. 7-16

Tex., Houston—City Council has low bid of \$54,443 from Russ Mitchell, Inc., Petroleum Bldg., for Hazard St. storm sewer; at \$10,843 from Erwin & Mortenson for laying 16-ft. lengths of pipe; at \$4695 from Miller and Miller, 2203 Walker St., for graveling road from Calhoun to middle of McGregor Park. 7-16

Telephone Systems

Fla., Miami—Aeronautical Radio, Inc., applied to Federal Radio Comsn., Washington, for permission to construct aeronautical broadcasting transmitter at Miami.

Tex., San Antonio—Southwestern Bell Telephone Co., B. D. Hull, Ch. Engr., 308 S. Akard St., Dallas, soon have plans ready for erection of addition to Mission exchange; 1 story, brick and rein. conc.; opens bids July 30 for Woodlawn exchange; 2 stories and basement, brick and rein. conc.; I. R. Timlin, Archt., Telephone Bldg., St. Louis. 4-23

W. Va., Charleston—Consolidated Engineering Co., Charleston, and 20 E. Franklin St., Baltimore, Md., general contractors for building for Chesapeake & Potomac Telephone Co.

of West Virginia let following sub contracts: Plumbing and heating, Standard Engineering Co., 2120 I St., N. W., Washington, D. C.; electric wiring, Rosenblatt & Hunt, Charleston Natl. Bank Bldg., Charleston; granite, Indiana Limestone Co., Bedford, Ind.; ornamental bronze and ornamental aluminum, John Harsch Bronze & Foundry Co., 11612 Madison Ave., Cleveland, O.; miscellaneous iron and steel, J. J. Weller, Huntington, W. Va.; metal windows, Truscon Steel Co., Youngstown, O.; building, designed by Meador and Handloser, Archts., Payne Bldg. 7-2

Textile Mills

Ky., Henderson—Southern Textile Machinery Co., Classner Hosiery Mills, and Arcadia Hosiery Mills, all Paducah, reported, considering purchase of Henderson Cotton Mills from Consolidated Textile Corp., New York, and Henderson; about \$600,000 required to purchase and modernize mill; \$250,000 to be raised locally; Bernard Posey and J. E. Rankin, both Henderson, interested.

N. C., Belmont—Thies Dyeing & Processing Co., reorganized under name of Piedmont Processing Co., B. E. Geer, Greenville, S. C., Pres.; Gerald A. Cooper, Gen. Mgr. and Treas. will occupy building formerly owned and occupied by the Thies Co.; will also retain main office at Belmont; do not contemplate any building or construction work or any additional machinery; have installed several new package and beam dyeing machines. 7-9

N. C., Burlington—Burlington Dyeing and Finishing Co., reported, plans immediate construction of dyeing and finishing plant; contract placed for equipment. 5-23

N. C., High Point—Melrose Hosiery Mills, reported, install 200 fine gauge seamless machines in addition now under construction at Mill No. 2.

S. C., Greenville—Duncan Mills (Cotton), reported, let contract to Fiske-Carter Construction Co., Masonic Temple Bldg., Greenville, for 170x80 ft. addition; J. E. Sirrine & Co., Engrs., 215 S. Main St.

Water Works

Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that classification.

Ala., Montgomery—See Roads, Streets and Paving.

D. C., Anacostia, Washington—Plans near completion for proposed 3,000,000 gal. capacity Anacostia reservoir; basin will replace two tanks of 278,000 gal. capacity east end of W St., S. E. on Fort Stanton Park; Malcolm Pirnie, C. E., 25 W. 43rd St., New York, designed basin; Capt. Hugh P. Oram, Asst. Engr. Commr.

Ga., Atlanta—City, W. Zode Smith, Gen. Mgr., Water Works, and J. Charlie Murphy, Chrmn. Finance Committee, recommended construction of 20,000,000 gal. filtration unit for water works system; cost about \$500,000.

Ga., Cornelia—Robert & Co., Inc., Atlanta, advises city voted \$75,000 bonds for proposed water works improvements; work will consist of 1/2 m.g.d. filtration plant, located on small creek nearby; work involves a mixing chamber, two 1/4 m.g.d. settling basins, two 1/4 m.g.d. filter units and a 75,000 gal. clear well, filter building, pumps, Diesel engines, etc.; Robert & Co. have just started work on plans and date for receiving bids not set, but will probably be about Sept. 1; L. Y. Irvin, Mayor; Robert & Co., Inc., Engrs. 7-16

Ky., Cumberland—Industrial Engineering Co., Lock Box 272, Lexington, preparing plans for water works plant.

Ky., Harlan—City, L. O. Smith, Mayor, purchased water works plant and system from Harlan Public Service Co.

Ky., Mt. Sterling—Kentucky Utilities Co., Louisville, closed contract with city for purchase of water franchise; negotiations under way for electric franchise.

La., Gretna—Courthouse and Jail Committee of Jefferson Parish Police Jury receives bids Aug. 10 for installation of water pressure system and repairs to plumbing in parish jail. See Want Section—Bids Asked.

La., New Orleans—Treasury Dept., Washington, D. C., office of supervising architect, opens bids Aug. 5 for furnishing material and labor and constructing water softener at U. S. Marine Hospital; plans, etc., from construction engineer or from office of supervising architect.

Md., Baltimore—Bd. of Awards receives bids July 29 for furnishing and delivering unwatering pump for Montebello-Druid Conduit. See Want Section—Bids Asked.

Md., Smithsburg—W. H. Angle, Hagerstown, has contract at \$21,000 for water works; install 11,372 ft. of pipe, Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa. for steel tower and tank; Frederick Iron and Steel Co., Frederick, for two 150 gal. multi-stage pumps; Carter & Greenwalt, Engrs., Arcade Bldg., Hagerstown.

N. C., Leaksville—Boulevard Improvement Co., incorporated; P. V. Godfrey, M. S. Hodges.

Okla., Chickasha—City, Jess L. Larson, Mayor, Robt. O. Bradley & Co., Conslt. Engrs., 1717 S. 7th St., let contract to Standard Paving Co., 2119 E. 11th St., Tulsa, for filtration plant; Pitchford Electric Co., Chickasha, for motors and electric wiring; Burnley Machinery Co., Liberty Natl. Bldg., Oklahoma City, for pumps; will install 5500 ft. of 18-in., 4500 ft. of 16-in., 6000 ft. of 14-in., and 3500 ft. of 12-in. c. i. pipe; 4000 g.p.d. intake well; 1,000,000 gal. clear well storage; 8000 ft. of outfall sewer of 18-in. vit. clay pipe; one 3000 g.p.m. hs pump; 2000 g.p.m. hs pump, 1000 g.p.m. hs pump; two 2000 g.p.m. hs pumps and 3000 g.p.m. washwater pump; cost of improvements \$193,000. 7-9

Okla., Tulsa—City, R. L. Laws, Water Commr., lay 12-in. line from West Tulsa to Red Fork.

Tenn., Fountain City, Knoxville—Emory Construction Co., Empire Bldg., Knoxville, reported, has contract for 170,000 gal. reservoir for Knox County Water Co. 3-26

Tenn., Memphis—City let contract to Carlloss Well Supply Co., 116 S. Front St., Memphis, for three 1,000,000 gal. daily self oil Cook deep well turbine pump.

Tex., Camp Hulen, Palacios—Disbursing Office, Camp Mabry, let contract to Southern Engine & Pump Co., 615 Washington St., Houston, for water supply system completion. 6-25

Tex., Corpus Christi—City, J. P. Logan, Mayor, opens bids Aug. 10 for rehabilitation of LaFruta dam, Lake Lovenskiold; following contractors estimating: J. DePuy, Milam Bldg.; Central Contracting Co., Athletic Club Bldg., San Antonio; Southwest L. E. Myers Co., Allen Bldg.; L. H. Lacy Co., Burt Bldg.; Frank Parrott, Tower Petroleum Bldg., all Dallas; Don Hall Constructor, Union National Bank Bldg.; Tellepsen Construction Co., 300 Clay St.; C. R. Berry & Co., Marine Bank Bldg.; J. P. Miller & Co., Esperson Bldg., all Houston; Robert K. McKee, 1916 El Paso; C. F. Runck, Cooper St.; Nueces Construction Co., both Corpus Christi; Folwell Engineering Co., 333 N. Michigan Ave., Chicago; Merritt-Chapman & Williams, 833 Howard Ave., New Orleans. 7-16

Va., Lynchburg—City let contract at \$36,834 to John Bowers and Overstreet-Nance Construction Co., Bedford, for completion of Pedlar dam.

W. Va., Morgantown—American Cast Iron Pipe Co., Birmingham, Ala., reported, has contract for 500 tons of c. i. pipe for Morgantown Water Co., Fayette St. 4-30

Woodworking Plants

Fla., Tampa—Evans Products Co., Edward S. Evans, Pres., 33rd Floor, Union Trust Bldg., Detroit, negotiating to establish plant near Tampa to produce 10 million or more new type citrus shipping crates yearly; ultimately expend \$750,000; probably begin manufacturing operations Oct. 1 at rate of 1800 crates daily.

Mo., St. Joseph—Hartman Furniture Co., capital \$50,000, incorporated; Harold T. Stout, St. Joseph; Charles D. Purcell, Kansas City.

N. C., Asheboro—Cranford Chair Co., C. C. Cranford, erecting 60x197-ft. 2-story addition to double plant capacity; employ 40 additional workers; Clyde Wood, Contr.

N. C., Lexington—United Furniture Co. let contract to L. S. Costner, Cherryville, for addition; 42,000 sq. ft. floor space; use for finishing and storage; 75x250 ft., 2 stories and basement.

Tex., San Benito—Vines Valley Furniture Co., incorporated; C. C. Vines, C. C. Bryant.

Va., Norfolk—Farmers Manufacturing Co., Bd. of Trade Bldg., advises at present time does not contemplate rebuilding burned barrel plant on former site; have transferred work for time being to main plant at Norfolk. 6-11

FIRE DAMAGE

Ala., Vredenburgh—Vredenburgh Saw Mill Co.'s plant; loss \$75,000.

Ark., Ash Flat—Buildings of I. L. Wiles, general store, Bristow Cafe and Horton Garage; loss \$10,000.

Ark., Levy—August Schneider's residence, Camp Pike Rd. near Devy.

Ark., Rison—J. W. Elrod's residence, Main St.; loss \$17,000.

Ga., Atlanta—Warehouse, Stewart Ave. and Glenn St., owned by Traynham Estate, Joseph A. McCord, Executor, 867 Peachtree St., N. E.

Ky., Central City—Stores of F. Hershber, Morris Kantrivitz and Frank V. Ramsey; McElroy Five and Ten Cent Store; David Cohen's clothing store; Ribenstein's store; loss \$125,000.

Ky., Lexington—R. D. Norwood's residence, 444 W. Sixth St.; loss \$8000 to \$10,000.

Mo., Illmo—Illmo Bank; Illmo Mercantile Co.'s store; Mrs. Clem C. Pellett's store; loss \$40,000.

N. C., Goldsboro—Foundry of Wayne Agricultural Works; loss \$100,000.

S. C., Springfield—Porter Hotel; address The Proprietor.

Tenn., Nashville—Eisele & Co. plant, 400 First Ave., N., manufacturers of hospital and physician supplies; loss \$250,000.

Tex., Port Aransas—P. J. Loomis' store; loss \$50,000, including stock.

Tex., Kilgore—Royal Cafe, owned by Pete Harper, of Oklahoma City, Okla.; Kilgore Electric Supply Co., owner by E. L. Ivey, Oklahoma City; Panhandle Hotel, operated by Mrs. Helen Howard, Birmingham, Ala.

Tex., Longview—Mrs. E. A. Morgan's residence, S. Green St. Extension; loss \$15,000.

Tex., Uvalde—Victor Roach's residence.

BUILDING NEWS

BUILDINGS PROPOSED

Association and Fraternal

Mo., St. Louis—Moolah Temple, Judge John W. Calhoun, Chmn., Bldg. Comm., 3523 Longfellow Blvd. has broken ground for additions to temple; 21 feet on each side, 2 stories and basement, ventilating system; remodel basement; \$100,000; Aegerter & Bailey, Archts., Rwy. Exch. Bldg. 6-25

Tex., Arlington—Grand Chapter of Texas, Order of Eastern Star, Mrs. Stella C. Vodrie, 621 Van Ness St., San Antonio, erect 2 wings to bldg., Women's Home; 2 stories, 40x87 ft. each; enlarge dining room and extend kitchen, 18x34 ft.; rein. conc. frame, brick and struct. clay tile, tar and gravel built-up roof; \$70,000; Wilder & Smith, Archts., Texas Theatre Bldg.; L. D. Royer, Mech. Engr., Smith-Young Tower; Terrell Bartlett, Conslt. Engr., Smith-Young Tower, all San Antonio; plans ready about Aug. 1. Address Archts.

W. Va., Wheeling—Wheeling Lodge No. 28, B. P. O. E., Wade H. Kepner, Exalted Ruler, plans \$300,000 lodge bldg. after plans by E. Bates Franzheim, 1425 Chapline St., Frederic Faris and Geo. B. Cunningham, Pythian Bldg.; financing; fabricated steel, conc. and brick, fireproof, Indiana limestone for first floor, face brick above, 3 stories, 142x120 ft., elect. refrigerators, elevators, hardwood, linoleum and tile floors, incinerator, limestone, marble, metal doors, built-up roof, sprinklers, steel sash and trim, gypsum tile, terra cotta trim, ventilators, brass and bronze work; sketches approved, working drawings not started; banquet hall to seat 500; 6 private dining rooms; probably issue \$200,000 in bonds; Conservative Life Insurance Co. to take up \$100,000 mortgage. 2-12

Bank and Office

Md., Baltimore—Maryland Trust Co., Calvert and Redwood Sts., plans to remodel basement and second floor, removing power plant from basement and converting second floor into banking rooms for trust department; install new elevators; build penstock, etc.; about \$100,000; Smith & May, Archts., Balto. Trust Bldg.; C. A. Osborne, Engr., 222 W. Franklin St.; Oscar B. Green, in charge of work for owner. 10-23-30

Mo., St. Louis—Union Electric Light & Power Co., 12th and Locust Sts., reported, erect 3 additional stories to office bldg., 12th and Locust Bldgs.; brick, rein. conc., steel, 57x62 ft.; Klipstein & Rathmann, Archts., 316 N. Eighth St.

Churches

Ga., Atlanta—Woodward Ave. Baptist Church will probably let contract to Geo. Spruill, Moore Mill Rd., for \$50,000 bldg., Park Ave. and Sydney St.; brick, steel truss, joist and stud interior, 2 stories and basement, oak and pine floors, cast stone, metal doors, plaster board, ventilators, conc. foundation, comp. asphalt shingle roof; DeFord Smith, Archt., 108 Peachtree Bldg. 4-9

Md., Baltimore—North Avenue M. E. Church, North Ave. and Caroline St., Herbert R. Freeman, Chmn., Bldg. Comm., 1627 E. Lanvale St., receives local bids July 27 and other bids July 28 (extended dates) at office Board of Architects of M. E. Church, Philadelphia, Pa., for auditorium; stone, 1 story; estimators in 7-16.

Md., Centerville—Roman Catholic Church, Eugene J. Kraemer, Pastor, Mother of Sorrows Rectory, receives bids July 29 at office Shreve, Lamb & Harmon, Archts., 11 E. 44th St., New York, for \$250,000 stone church and frame rectory; following contractors estimating: Joyce & Kerrikan; John C. Healy & Sons, both Wilmington, Del.; M. A. Long Co., 10 W. Chase St., Baltimore, Md.; F. L. Hoover & Sons, Inc., 1023 Cherry St., Philadelphia, Pa.; H. D. Hynds, Inc., 405 Lexington Ave.; Geo. A. Shedden Co., 62 W. 45th St., both New York. 12-18-30

Okla., Oklahoma City—Exchange Ave. Baptist Church, Rev. Hale V. Davis, Pastor, 1833 Linden St., will select architects and decide on definite plans for first educational unit of \$400,000 church within 30 days. 4-2

Okla., Norman—Church of The Nazarene, Rev. Milton Smith, Pastor, probably have plans out latter part of Aug. for \$20,000 brick bldg.; 1 story; Langbein & Johnston, Archts., Oklahoma City.

Tex., Harlingen—Hebrew Congregation has low bid at \$13,870 from Jas. N. Meeks for synagogue; Stanley W. Bliss, Archt. 7-9

Tex., San Antonio—St. Johns Lutheran Church, S. Presa and Nueva Sts., Henry Hein, Chmn., Bldg. Comm., erect \$100,000 fireproof bldg.; 1 story, 45x130 ft.

Tex., San Benito—St. Benedicts R. C. Church soon start work on brick and tile parish house; 8 rooms, 2 stories; Birger A. Elwing, Archt., Harlingen; bids in.

Va., Richmond—Colonial Place Christian Church erect Sunday school, Commonwealth and Kensington Aves.

W. Va., Berkeley Springs—Roman Catholic Church having plans drawn by T. J. Collins & Son, Archts., Staunton, Va., for \$10,000 bldg.; Saml. J. Collins, Staunton, lately noted as architect. 7-9

City and County

Fla., Kendall—Dade County Board of Comms. considers erecting negro ward addition to County Home and additional floor to bldg. for white boys.

Ga., Macon—Following contractors estimating on convict camp, bids Aug. 4 by Bibb County Bd. of Comms.: R. H. Smalling & Son, Fourth Natl. Bank Bldg.; W. D. Griffin, 210 Winship St.; M. E. Shaw, 1605 Vineville Ave.; Fred Dillman; Cecil W. Hays, Grand Bldg., and W. Elliott Dunwoody, Jr., 460 Broadway, Asso. Archts., all Macon. 7-16

La., New Orleans—Following contractors estimating on Magazine St. Market, bids July 28 by City Comsn. Council: Wm. Wallace, Pere Marquette Bldg.; Gervais F. Favrot,

Balter Bldg.; Caldwell Bros., 816 Howard Ave.; Chas. Gilbert Construction Co., Amer. Bank Bldg.; Reimann Construction Co., Maritime Bldg.; J. A. Petty & Sons, Inc., Audubon Bldg.; J. M. DeFraithe, Inc., 612 State St.; Lionel F. Favret, Louisiana Bldg.; John A. O'Brien, Louisiana Bldg.; T. A. Pittman, Inc., Canal Bank Bldg.; Alvin M. Fromherz, Q. & C. Bldg.; Sam Stone, Jr., & Co., Archts., Masonic Temple Bldg.; Anzalone Construction & Supply Co., Balter Bldg.; H. W. Bond & Bro., 816 Howard Ave.; Reilly-Ruckstuhl, Inc., 423 Carondelet St.; R. P. Farnsworth & Co., Maritime Bldg.; H. Pratt Farnsworth, Canal Bk. Bldg. 7-16

Mo., Camdenton—Camden County Court, J. M. Bunch, Presiding Judge, opens bids Aug. 1 for court house; conc. and masonry, 3 stories, 75x75 ft., conc. floors and foundation, comp. roof; Victor J. DeFoe, Archt., 114 W. 10th St., Kansas City; engineering by Archt.'s office; address owner. 7-16

Okla., Enid—Garfield County Bd. of Comms. razing burned court house, work finished in 30 days; plan \$250,000 bldg., probably 7 or more stories, fireproof; architect not selected; may impose levy or call bond election; no definite plans yet. 7-9

Okla., Pawnee—Pawnee County Bd. of Comms. erect \$100,000 court house; soon select architect.

Tenn., Memphis—City Council, Clifford Davis, Fire and Police Commr., selected J. F. Downing, 2943 Union St., as architect for Fire Station No. 19, Chelsea and Lambert Sts.

Tenn., Memphis—Shelby County Bd. of Comms., E. W. Hale, Chmn., may erect \$400,000 almshouse, Mullins Station, upon completion of proposed additional facilities, Western State Hospital for Insane, Bolivar.

Tex., Houston—City Council, H. Andy Delery, Fire Commr., replace Fire Station No. 5 with \$12,000 bldg.; brick, 2 stories.

Tex., Liberty—Liberty County Bd. of Comms., Judge R. E. Biggs, receives bids until July 27 for wood and steel furniture and equipment and misc. furnishings for \$200,000 court house; Corneli G. Curtis, Archt., 1637 Hawthorne St., Houston. 10-16-30

Dwellings

D. C., Washington—J. W. Farran, 335 Maryland Ave., N. E., erect residence, 333 Maryland Ave., N. E.; B. Stanley Simmons, Archt.; bids in.

D. C., Washington—J. Williams erect \$10,000 residence, 1336 Locust Rd., N. W.; brick and frame, 2 stories.

D. C., Washington—Mark Sherrier erect stone residence, 5016 Conduit Rd.; 2½ stories, comp. shingle roof, hardwood and tile floors, hot water heat; bids in.

D. C., Washington—North Washington Realty Co., Inc., 7900 Georgia St., has permit for \$10,000 dwelling, 1365 Locust Rd., N. W.; brick, 2 stories.

D. C., Washington—F. Davis Little, 3358 Tennyson St., N. W., has permit for \$10,000 residence, 7539 14th St., N. W.; brick, 2 stories.

D. C., Washington—John M. King, 1008 11th St., N. W., has permit for 3 conc. block and frame dwellings, 2425-2429-2433 Perry St., N. E.; 2 stories; total \$15,000.

D. C., Washington—C. W. Williams, 443 Fourth St., N. E., has permit for 5 brick dwellings, 5300-08 Kansas Ave., N. W.; 2 stories; total \$30,000.

Fla., Miami—Chas. J. Davol, 69 Point St., Providence, R. I., soon take bids for \$50,000 residence, 1643 S. Bridwell Ave.; John N. Bullen, Archt., 18 Bastian Bldg.

Fla., Miami Beach—Carl Green, 423 Navarre Ave., Coral Gables, having plans drawn by C. LeRoy Kinports, Archt., 3897 Kumquat Ave., Coconut Grove, for dwelling and garage.

Fla., Miami Beach—H. F. Hoffman, care Department of Agriculture, Washington, D. C., plans to start work about Aug. on \$16,000 residence, Flamingo Terrace; 2 stories; C. LeRoy Kinports, Archt., 3897 Kumquat Ave., Coconut Grove, Miami.

Ga., Decatur—C. L. Williams, 1423 Oakview Rd., has contract for dwelling; 1 story and basement, 6 rooms and bath, hardwood and tile floors, comp. shingle roof.

Md., Baltimore—Daniel Cedrone, 5647 Govane Ave., erect 4 semi-detached dwellings and 4 semi-built-in garages, 5635-41 Govane Ave.

Md., Pylesville—H. C. Hood erect brick residence near Pylesville; 1½ stories, 33x45.6 ft.; Bernard Evander, Archt., 20 E. Lexington St., Baltimore.

Miss., Hattiesburg—J. O. Barron, 38 Main St., has low bid at \$14,720 from W. L. Phillips, Adeline St., Hattiesburg, for residence; Juan G. Landry, Archt., Conn Bldg.

Mo., St. Louis—Wm. L. Killebrew, 4498 Forest Park Blvd., erect residence, Moorlands Addition.

Mo., St. Louis—Isaac Agatstein, Bldr., 6253 Southwood St., considers erecting residence, Lake Forest.

Mo., St. Louis—J. A. Campbell, 7329 Bruno St., erect 6 brick dwellings, 6230-16 Tholoan St.; 1 story, 28x42 ft., comp. roofs, warm air heat; total \$30,000.

N. C., Durham—Dr. Gilbert T. Rowe erect \$10,000 residence; contract let.

Okla., El Reno—Dr. Riely erect \$15,000 residence; brick, 1 story; Langbein & Johnston, Archts., Oklahoma City; probably call for bids in August.

Okla., Oklahoma City—A. M. DeBolt, Jr., 1739 W. 14th St., having preliminary plans drawn by Thos. L. Sorey, Archt., for \$35,000 residence; brick veneer and stone, 2 stories.

Okla., Oklahoma City—A. M. Harris, 620 W. 23rd St., drawing plans for \$40,000 residence; brick and stone, 2 stories and basement; Thos. L. Sorey, Archt., Perrine Bldg.

S. C., Greenville—A. W. Smith, Jr., care Brandon Corp., erect residence, Alta Vista; plans not started.

S. C., Greenville—Dr. L. C. Minter, Woodside Bldg., having plans drawn for residence, Alta Vista, soon let contract.

S. C., Greenville—F. C. Proctor, 229 Fairview Ave., having plans drawn for residence, Alta Vista.

S. C., Greenville—Dr. John Fewell, Jervey-Jordan Bldg., having plans drawn for residence, Alta Vista.

Tex., Harlingen—Sid Berly has low bid at \$10,490 from W. F. Chambers, San Benito, for Spanish type residence; stucco, 2 stories.

Tex., Houston—Mrs. M. M. Graves, 3515 San Jacinto St., has permit for \$18,000 residence; brick, 10 rooms.

Va., Richmond—Wm. C. Carr, Grace Amer. Bank Bldg., erect 2-story and basement residence, River Rd., Westhampton, after plans by Courtenay S. Welton, Archt., Grace Amer. Bank Bldg.; 92x40 ft., 11 rooms, 3 baths; bids in. 7-9

Government and State

Ala., Albertville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., receives bids in duplicate until Aug. 6 for \$62,800 post office; rein. conc., brick and tile, granite, stone, marble, 2 stories and basement, comp. roof, steel work; drawings from office Supvg. Archt. 11-27

Ala., Sylacauga—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids in duplicate Aug. 11 for post office. 11-27

Ark., Brinkley—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids in duplicate Aug. 10 for post office; \$65,000; drawings from office Supvg. Archt. 12-4

Ark., Little Rock—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids in duplicate Aug. 17 for constr. (except elevators and dumb waiters) of \$1,435,000 Federal bldg.; drawings from office Supvg. Archt. 6-11

D. C., Washington—Architect of The Capitol, David Lynn, has low bid at \$94,800 from George A. Fuller Co., Munsey Bldg., Washington, for granite steps and platforms for west approaches to Capitol. 7-2

D. C., Washington—District Comms., Major H. L. Robb, Corps of Engineers, Assistant to Engineer Commissioner, have plans in working drawing stage for first unit of \$10,000,000 Municipal Center; \$6,000,000 authorized for first unit, to consist of 7-story and basement bldg., about 600 ft. long, John Marshall Place bet. D St. and Pennsylvania Ave.; probably house Municipal Court, Police Court, Police Dept., Juvenile Court and Recorder of Deeds of District; about 10,000,000 cu. ft. of space, steel frame, stone exterior; hope to let contract for foundations before Jan. and contract for superstructure probably after Jan. 1; wrecking bldgs. on site; Nathan C. Wyeth, 16 Jackson Place, N. W.; Fred V. Murphey, 1413 H St., N. W.; Geo. Burnap, 1741 Rhode Island Ave., N. W.; E. W. Donn, Jr., 1920 K St., N. W.; Edwin T. Pairo, 31 Rhode Island Ave., N. W.; E. S. Menke, etc., architects; Dan Moran, of Moran & Proctor, 342 Madison Ave., New York, Consult. Engr. 6-18

D. C., Washington—Additional prospective estimators on \$865,000 Public Health Service Bldg., bids Aug. 3 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt.; General Construction—Wills, Taylor & Mafara, 303 W. 42nd St., New York; Wark Co., 1608 Walnut St.; F. W. Mark Construction Co., Commercial Trust Bldg., both Philadelphia, Pa.; English Construction Co., Inc.; Boyle-Robertson, Inc., Evans Bldg.; C. A. Hofferberth Construction Co., District National

Bank Bldg., all Washington; North-Eastern Construction Co., 6 W. Madison St.; M. A. Long Co., 10 W. Chase St.; Consolidated Engineering Co., Inc., St. Paul and Franklin Sts., all Baltimore, Md.; S. M. Siesel Co., Pittsburgh, Pa.; Robt. H. Evans & Co., Atlas Bldg., Columbus, O.; Lee Paschall, Amer. Natl. Bank Bldg., Richmond, Va.; K. E. Parker Co., 135 S. Park Ave., San Francisco, Calif.; B.-W. Constructoin Co., 720 N. Wabash Ave., Chicago, Ill.; S. & W. Construction Co., Shrine Bldg., Memphis, Tenn.; Libbey & Libbey Co., 224 Second Ave., Minneapolis, Minn.; Elevators—American Elevator & Machinery Co., 500 E. Main St., Louisville, Ky.; R. G. Wilford, Box 510, Raleigh, N. C.; General Electric Co., Schenectady, N. Y.; Warsaw Elevator Co., Mercier and Grant Sts., Baltimore, Md.; Haughton Elevator & Machine Co., Vermont Bldg.; A. B. See Elevator Co., Inc., 1343 H St., N. W.; Otis Elevator Co., 510 18th St., N. W., all Washington; Westinghouse Electric Elevator Co., 30th and Walnut Sts.; Atlantic Elevator Co., Erie Ave. and D St., both Philadelphia, Pa.; Reliance Elevator Co., 212 Kinzie St., Chicago, Ill.; Warner Elevator Mfg. Co., 2613 Spring Grove Ave., Cincinnati, O. 7-16

D. C., Washington—Navy Dept., Bureau of Yards and Docks, rejected bids for time clock vault, Naval Observatory; brick, conc., hollow tile, limestone, copper roof, cork insulation.

Ga., Atlanta—Prospective estimators on foundation and tunnel work for \$1,500,000 post office and Federal bldg., bids July 29 (extended date) by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; Griffin Constr. Co.; Geo. A. Clayton Barge-Thompson Co., 136 Ellis St., N. E.; A. Co.; Gilbert Beers, all Bona Allen Bldg.; K. Adams Co., 542 Plum St., N. W.; Smith-Pew Co., 435 Irwin St., N. E.; Southern Ferro Concrete Co., 70 Ellis St., N. E.; Pittman Construction Co., Rhodes Bldg., all Atlanta; North-Eastern Construction Co., Winston-Salem, N. C.; Harrison-Wright Co., 4 W. Third St., Charlotte, N. C.; General Engineering Corp., Upper Darby, Pa.; National Construction Co., Tower Bldg., Washington; Foundation Co., Inc., 120 Liberty St., New York; R. P. Farnsworth & Co., Maritime Bldg., New Orleans, La. 7-16

Ga., Augusta—U. S. Veterans Bureau, Arlington Bldg., Washington, D. C., has low bid at \$35,368 from Batson-Cook Co., Inc., West Point, Ga., for 2 duplex officers' quarters, U. S. Veterans Hospital. 7-9

Ga., Eatonton—Prospective estimators on post office, bids July 23 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; Murphey Pound, Hill Bldg., Columbus, Ga.; Johnson Construction Co., 512 N. Sixth St.; A. J. Honeycutt Co., both Birmingham, Ala.; Barge-Thompson Co., 136 Ellis St., N. E.; Grah Construction Co., Red Rock Bldg.; W. P. Francis, 201 Luckie St.; Norwood-Griffin Co., Bona Allen Bldg.; Smith-Pew Construction Co., 435 Irwin St., N. E.; J. S. McCauley Co., all Atlanta, Ga.; W. T. Duncan, Gaffney, S. C.; E. M. Williams, Williams Bldg., Monroe, Ga.; Theriault Contracting Co., 534 E. Johnson St., Philadelphia, Pa.; Kellogg & Anderson, Sedalia, Mo.; C. A. Morrison & Son, Shelby, N. C.; Geo. Becking & Son, James Bldg., Chattanooga, Tenn.; Batson-Cook Co., Inc., West Point, Ga.; Earl E. Garber & Co., Bethlehem, Pa.; H. H. Brown, Dothan, Ala.; Plains Construction Co., Box 1298, Pampa, Tex.; Samford Bros., Inc., 301 Washington Ave., Montgomery, Ala. 7-9

Ky., Falmouth—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., has low bid at \$40,000 from James C. Miller, Campbellsville, Ky., for post office, etc. 6-25

Ky., Pikeville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., drawing plans for \$93,000 post office, Main St.

Ky., Prestonburg—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., has low bid at \$42,610 from James C. Miller, Campbellsville, Ky., for post office. 6-25

La., Barksdale Field, Shreveport—Constructing Quartermaster, Barksdale Field, receives bids until Aug. 7 for elect. distribution system and main entrance structures.

Md., Beltsville—Bureau of Animal Industry, Dept. of Agriculture, Washington, D. C., has low bid from Chas. S. Bannett, Inc., 4700 Springfield Ave., Philadelphia, Pa., for barn, Experimental Farm.

Md., Fort George G. Meade—Constructing Quartermaster, Capt. H. N. Williams, receives bids Aug. 5 for 26 brick officers' quarters,

14 non-commissioned officers' quarters, sidewalks, roads, water and sewer systems and underground elect. transmission system for above; on contract.

Okl., El Reno—Department of Justice, Bureau of Prisons, Sanford Bates, Washington, D. C., probably let contract about Sept. 1 for first 3 bldgs. for \$3,000,000 dormitory type Federal reformatory at Fort Reno; structures include administration, receiving, cell block, school, auditorium and gymnasium, hospital, mess hall bldgs. and dormitories; Colonial type; fireproof. 3-5

Tenn., Huntington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., has low bid at \$42,000 from James C. Miller, Campbellsville, Ky., for post office; low bid lately incorrectly reported. 7-16

Tex., Brownsville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids Aug. 14 for constr. (except elevators) of post office; \$400,000; brick and rein. conc., 4 stories and basement; G. W. Dunnnett, Postmaster. 7-2

Tex., Dryden—Quartermaster, Eighth Corps Area, Fort Sam Houston, Tex., opened bids July 23 for non-commissioned officers' quarters, Army Airframe; struct. clay tile and stucco, 1 story, 27x45 ft., rein. conc. foundation, comp. shingle roof, brick chimney, roof ventilator, wood floors. 4-23

Tex., Galveston—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., have plans completed about Sept. 1 for \$375,000 immigration station and detention bldg., A, B, 17th and 18th Sts., Galveston Island; Spanish Renaissance type, 3 stories and basement, 56 rooms, brick, struct. steel, stone and rein. conc.; Bottomley, Wagner & White, Archts., 60 E. 42nd St., New York. 4-23

Tex., Waco—State Bd. of Control, Claude D. Teer, Chmn., Austin, selected Birch D. Easterwood, 614 Liberty Natl. Bank Bldg., Waco, as architect for \$40,000 dormitory, Home for Dependent and Neglected Children. 7-2

Va., Culpeper—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected site for \$64,000 post office. 7-2

Va., Danville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected J. B. Heard, Masonic Temple Bldg., as architect for \$390,000 post office, Main and Ridge Sts. 7-9

Va., Fort Monroe—Constructing Quartermaster, Fort Monroe, receives bids until Aug. 4 for single set of non-commissioned officers' quarters, Fort Monroe; plans from above. 7-2

Va., Langley Field, Hampton—Constructing Quartermaster, Fort Monroe, Va., opens bids July 28 (extended date) for \$100,000 heating plant, 38x63 ft., with pipe lines to barracks and other buildings. 7-2

Va., Woodstock—Prospective estimators on post office, etc., bids July 24 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; Jones Bros. & Co., Box 1454, Wilson, N. C.; E. B. Ring, Inc., 105 Snell Arcade, St. Petersburg, Fla.; J. H. Coleman & Son, Clarendon, Va.; General Engineering Corp. of Pennsylvania, McClatchy Bldg., Upper Darby, Pa.; Kellogg & Anderson, Sedalia, Mo.; Theriault Contracting Co., 534 E. Johnson St.; Nicholas Co., 4848 Lancaster Ave.; R. W. Erickson, Commercial Trust Bldg., all Philadelphia, Pa.; Doyle & Russell, Central Natl. Bank Bldg., Richmond, Va.; Norwood-Griffin Co., Bona Allen Bldg., Atlanta, Ga.; A. J. Etter & Sons, 223 S. Potomac Ave., Waynesboro, Pa.; D. J. Phipps, 212 Main St., Wasena; Wood Construction Co., United Cigar Stores Bldg., both Roanoke, Va.; Wilson Co., Charlottesville, Va.; Mims, Speake & Co., Luray, Va.; Motley Construction Co., Farmville, Va.; Earl E. Garber & Co., Bethlehem, Pa.; Samford Bros., Inc., 301 Washington St., Montgomery, Ala.; Molsen Construction Co., 56 W. Johnson St.; Harrisonburg Building & Supply Co., both Harrisonburg, Va.; Virginia Engineering Co., Inc., First Natl. Bank Bldg., Newport News, Va. 7-9

Va., Yorktown—Department of Interior, National Park Service, Oliver G. Taylor, Engineer in Charge, Colonial National Monument, receives bids until July 29 for plans, materials, equipment, labor and performing work for constr. of grandstands; 6030 chair seats and 10,080 bleacher seats for United States-Yorktown Sesquicentennial Comsn., and 5040 chairs for Yorktown Sesquicentennial Assn., Inc.; two separate contracts; plans from Engineer in Charge. 7-9

Hospitals, Sanitariums, Etc.

Fla., Key West—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids Aug. 5 for extension and remodeling of U. S. Marine Hospital; drawings from office Supvg. Archt. 1-8

Ga., Augusta—United States Veterans Bureau, Arlington Bldg., Washington, D. C., has low bid at \$35,368 from Batson-Cook Co., Inc., West Point, Ga., for 2 duplex officers' quarters, U. S. Veterans Hospital. 7-16

Miss., Jackson—Mississippi Removal, Improvement and Land Sale Comsn., R. L. Brown, Sec., New Capitol Bldg., has low bid at \$18,000 from Weaver & Conn, Gulfport, for plumbing work for bldgs. in Negro Group No. 1; low bid on heating from Davis Plumbing Co., 115 S. State St., Jackson, at \$28,843; N. W. Overstreet, Archt., Standard Life Bldg., Jackson; Vinson B. Smith, Advisory Archt., Gulfport. 7-16

Miss., Jackson—State Hospital Removal, Improvement and Land Sale Comsn., R. C. Brown, Sec., New Capitol Bldg., has low bid at \$18,000 from Weaver & Conn, Gulfport, for plumbing work for bldgs. in Negro Group No. 1; low bid on heating from Davis Plumbing Co., 115 S. State St., Jackson, at \$28,843; N. W. Overstreet, Archt., Standard Life Bldg., Jackson; Vinson B. Smith, Advisory Archt., Gulfport. 6-18

N. C., Durham—Salvation Army, North and South Carolina Divisions, W. G. Gilks, Staff-Captain, Charlotte, N. C., purchased old Southern Conservatory of Music; convert for maternity home and hospital. 6-18

N. C., Oteen—U. S. Veterans Bureau, Arlington Bldg., Washington, D. C., probably advertise Aug. 15 for bids on 2 hospital units, 125 beds each, and 1 or 2 employees' bldgs., U. S. Veterans Hospital. 6-18

Okl., Clinton—State Bd. of Public Affairs, W. C. Hughes, Chmn., Oklahoma City, erect \$123,000 ward bldg., State Tuberculosis Sanatorium; brick, rein. conc. and stone; Layton, Hicks & Forsyth, Archts., Braniff Bldg., Oklahoma City; bids in. 6-25

Okl., Norman—State Bd. of Public Affairs, W. C. Hughes, Chmn., Oklahoma City, probably call for bids during Aug. for \$250,000 hospital; brick, rein. conc. and stone, 2 stories and basement; Layton, Hicks & Forsyth, Archts., Braniff Bldg., Oklahoma City; C. E. Dudley, Chmn., Bldg. Committee. 6-11

Okl., Tahlequah—State Bd. of Public Affairs, W. C. Hughes, Chmn., Oklahoma City, erect \$100,000 ward bldg., State Tuberculosis Sanatorium; brick, rein. conc., conc. and stone; Layton, Hicks & Forsyth, Archts., Braniff Bldg., Oklahoma City; bids July 20. 6-11

Tenn., Nashville—Davidson County Tuberculosis Hospital Bd. of Managers, Dr. A. G. Nichol, Sec., receives bids until July 30 at office Judge Litton Hickman, County Court House, for school; 2 stories and basement, 40x64 ft., cinder block and conc.; plans from Asmus & Clark, Archts., 1415-18 Nashville Trust Bldg. 7-16

Tenn., Bolivar—Western State Hospital for Insane, Dr. E. W. Cocke, Supt., plans additions; \$900,000 authorized. 7-16

Tex., Austin—State Bd. of Control, Claude D. Teer, Chmn., Austin, selected Page Bros., Austin Natl. Bank Bldg., as architects for \$100,000 ward bldg., Austin State Hospital for Insane. 6-25

Tex., Austin—State Bd. of Control, Claude D. Teer, Chmn., selected W. E. Ketchum, Pope Bldg., as architect for new wing to convalescent dormitory, \$40,000, and repairing and fireproofing female dormitory, \$18,000, Austin State Hospital for Insane. 6-25

Tex., San Antonio—State Bd. of Control, Claude D. Teer, Chmn., Austin, selected Peters, Strange & Bradshaw, Big Spring, as architects for \$90,000 dormitory, State Tuberculosis Sanatorium. 6-25

Tex., San Antonio—Bexar County Comms., Court receives bids until July 27 for addition to nurses' home; fireproof, 4 stories; Herbert S. Green, Archt., Morris Plan Bank; W. E. Simpson Co., Engr., 942 Milam Bldg. 7-2

Tex., San Antonio—State Bd. of Control, Claude D. Teer, Chmn., Austin, selected Leo M. J. Dielmann, 306 E. Commerce St., San Antonio, as architect for conc. porches, San Antonio State Hospital, \$30,000, and Olin Boese, Bldrs. Exch. Bldg., San Antonio, as architect for \$30,000 employees' dormitory. 6-18

Tex., San Antonio—State Bd. of Control, Claude D. Teer, Chmn., Austin, selected Wilder & Smith, Texas Theater Bldg., as architects and Henry T. Phelps, Hicks Bldg., as associate archt. for \$100,000 dormitory for Mexicans, San Antonio State Hospital; brick and rein. conc. 6-18

Tex., Terrell—State Bd. of Control, Claude D. Teer, Chmn., Austin, selected Lindsey & Kilmer, Greenville, as architects for \$85,000 ward bldg., Terrell State Hospital. 6-25

Tex., Wichita Falls—State Bd. of Control, Claude D. Teer, Chmn., Austin, selected Voelcker & Dixon, Inc., Perkins-Snyder Bldg., Wichita Falls, as architects for \$105,000 ward bldg., Wichita Falls State Hospital, and Ray C. Arnold, Stacey Bldg., Wichita Falls, as architects for \$90,000 hospital bldg.; \$7500 supt.'s residence to be handled by supt. of hospital. 6-25

Hotels and Apartments

D. C., Washington—C. A. Harnett has permit for 9 two-story, brick flats, 1411 Neal St. and 1300-28 Holbrook St., N. W.; \$76,895. 7-2

D. C., Washington—M. Holzbeierlein, 1849 Seventh St., N. W., remodel building, 1830 Wiltberger St., N. W., for 10 apartments; 2 stories, brick work, sheet metal, tin roof, electric wiring, plumbing, gas radiators, glass, plastering, hardware, steel beams; Julius Wenig, Archts., Edmonds Bldg.; bids in. 7-2

Fla., Coral Gables—Henry L. Doherty and associates, 60 Wall St., New York, purchased Miami Biltmore Hotel, including country club, golf course, etc.; plan extensive improvements. 7-2

Ga., Augusta—H. P. Burum, 2306 Walton Way, and associates will have plans completed by Scroggs & Ewing, S. F. C. Bldg., about Aug. 10 for 17-story, steel frame, brick, stone trim hotel on Broad St.; 185 rooms with bath, vapor heat, mechanical ventilation, 3 elevators, tar and gravel roof, tile baths; \$500,000; garage in rear; building to be furnished by lessee. 7-2

Mo., St. Louis—J. B. Berlin, 3503 Fair St., erect 4-family apartment in Westmoor Park No. 2. 7-2

Okl., Norman—Dave Logan postponed indefinitely erection of \$35,000, 2-story and basement, brick, 12 apartment building; Thos. L. Sorey, Archt., Perrine Bldg., Oklahoma City. 6-25

Tenn., Nashville—A. M. E. Sunday School Union has permit for \$20,000, 2-story brick apartment, 420 Eighth Ave., S.; McKissack & McKissack, Archts., Morris Memorial Bldg. 7-2

Miscellaneous

D. C., Washington—Washington Animal Rescue League, Mrs. Thomas Geoghegan, 349 Maryland Ave., S. W., having plans prepared by R. W. Berry, 7005 Meadow Lane, Chevy Chase, Md., for \$25,000, one- and two-story, brick and rubble stone stable and garage, S. Capitol and D Sts., N. W.; slate and built-up roof, steam heat, terrazzo floor. 7-2

Ga., Baxley—Bd. of Directors, Southern Industrial Home, L. R. Tawkins, Chmn., started work on 10-room frame headquarters building on 1050-acre site on Baxley-Black-shear highway in Appling County; also plans 5 other structures. 7-2

Mo., Kansas City—D. W. Newcomer's Sons, E. Robert Gillham Road and The Paseo, erect \$60,000 addition to funeral home; chapel and wing 48x104 ft., one story, Spanish type, mirror pool and garden; Edw. Buehler Delk, Archt., Meyer Blvd. and Ward Parkway. 7-2

Tex., San Antonio—San Antonio Casino Club, Crockett and Presa Sts., Lawrence S. Goforth, Pres., plans improvements, including swimming pool, gymnasium, bowling alleys, Turkish baths, handball court, air-cooling system for ballroom, dining room, library and reading room, addition of 16 dormitory rooms. 7-2

Mo., Kansas City—Kansas City Assn. for Blind, 2918 Tracy Ave., B. F. Hart, Chmn., Bldg. Comn., soon let contract for \$50,000 Catherine Hale Home for Blind; 3 stories, fireproof; Owen, Saylor & Payson, Archts., 505 Interstate Bldg. 7-2

Schools

D. C., Washington—District Comms., Roland M. Brennan, Ch. Clk., Engr. Dept., District Bldg., have low bid at \$68,867 from Lacchi Construction Co., Munsey Bldg., for 2-story, brick addition to Benjamin Orr School; A. L. Harris, Municipal Archt., Dist. Bldg. 7-9

D. C., Washington—District Comms., Roland M. Brennan, Ch. Clk., Engr. Dept., District Bldg., approved plans for 2 school additions: Ten-room addition, gymnasium and lunch room and kitchen at Macfarland Jr. High School, Iowa Ave. and Allison St., N. W., and for gymnasium at Randall Jr. High School, First and Eye Sts., S. W.; A. L. Harris, Municipal Archt., Dist. Bldg. 7-9

D. C., Washington—National Training School for Boys, Bladenburg Road, N. E., have plans ready in few days for shop building; 3 wings, 40x122 and 35x54 ft., one and two stories, brick, stone, rein. conc., struc. steel, slate roof, steam heat. 7-9

Fla., Tallahassee—State Bd. of Control, P. K. Yonge, Chmn., rejected bids for \$50,000, one- and two-story and basement, 78x137 ft., rein. conc., steel, brick training school for A. & M. College for Negroes; cast stone trim, slate roof; plans by Rudolph Weaver, Board Archt., Peabody Hall, Gainesville. 7-9

Ga., Augusta—Richmond County plans to soon sell \$1,000,000 bonds for erection of schools, including new school in Sixth Ward, school to take place of Central and Davidson schools, new D'Antignac St. school, King Mill school and schools for negroes and some of country districts; address Richmond County Bd. of Education.

Ga., Decatur—Dr. J. R. McCain, Pres., Agnes Scott College, advises that campaign for \$1,500,000 for building development has been recently completed but we are not planning to let any immediate contracts; recently finished combination administration-combination building at cost \$300,000, steam plant and laundry at cost \$125,000; the next building will be auditorium-music building costing \$125,000; Edwards & Sayward, Archts., 101 Marietta St., Atlanta, but contract will prob. not be let until Sept., 1932, contemplate erection of chapel and dormitory but it is not expected that either of these will be erected before 1932. 6-18

Ga., Hogansville—Bd. of Education, H. B. Darden, Chmn., erect \$25,000, 1-story and basement, classroom and auditorium school; prob. call election on bonds soon.

La., Lake Charles—School Dist. No. 22 voted \$75,000 bonds for school; H. A. Norton, Sec., Calcasieu Parish School Bd. 6-11

Ga., Warrenton—Julius Rosenwald Fund, Cotton States Bldg., 12 Capitol Square, Atlanta, having preliminary plans prepared for 1-story and basement, 8-classroom and shop, brick veneer school for negroes; comp. roof, hollow tile, wood floors.

Ky., Louisville—Samuel D. Jones, Bus. Dir., Bd. of Education, advises that erection of addition to J. M. Atherton High School for Girls, Morton and Rubel Aves., has been deferred; having plans prepared for Junior High School on site formerly occupied by Masonic Widows and Orphans Home, but will prob. be 3 or 4 months before we are ready to give out any detailed information; within next 3 or 4 weeks we expect to have plans ready for bidders for Nannie Lee Fryaser School on Larchmont Ave. 2-5

La., Baton Rouge—Following contractors estimating on 3-story, brick and stucco Fine Arts Bldg. and 3-story, brick field house, bids July 30 by Louisiana State University and Agricultural and Mechanical College, Gov. Huey P. Long, Pres., Bd. of Supervisors, State Capitol Bldg.; R. P. Farnsworth & Co., Maritime Bldg.; Caldwell Bros., 816 Howard Ave.; J. V. & R. T. Burkes, Inc., Am. Bank Bldg.; O. M. Gwin Construction Co., 3503 Fern St.; J. A. Petty & Sons, Inc., Audubon Bldg., all New Orleans; L. W. Eaton, 1601 N. Blvd.; Clifford H. King, Prescott Lane; A. C. Stewart, S10 E. Blvd.; Chapman Construction Co., Wreck Bldg., all Baton Rouge; C. G. Kershaw Contracting Co., Alexandria; W. C. Smalley, Ouachita Natl. Bank Bldg., Monroe; Dye & Mullings, Columbia, Miss.; Weiss, Dreyfous & Seiferth, Inc., Archts., 600 Maison Blanche Bldg., New Orleans. 7-16

La., New Orleans—Sisters of the Blessed Sacrament, 5100 Magazine St., receive bids Aug. 20 for group of 3 buildings on Palmetto St. between Pine and Lowerline Sts.; \$400,000, 2 stories and basement, rein. conc., brick, limestone, comp. and slate roof, pile foundation, steam heat; Wogan & Bernard, Archts., Canal Bank Bldg.; following contractors estimating: Lionel F. Favret, Louisiana Bldg.; Geo. J. Glover Co., Inc., Whitney Bank Bldg.; Chas. Gilbert Construction Co., Am. Bank Bldg.; Alvin M. Fromherz and Geary-Oakes Co., Queen & Crescent Bldg.; H. W. Bond & Bro., 816 Howard Ave. 6-11

Md., Baltimore—Bd. of Awards has low bid at \$10,999 from Lafayette Engineering Co., 28 W. 20th St., for heating, plumbing and electric work at School No. 29, Presstman and Pulaski Sts.

Md., Chevy Chase—Montgomery County Bd. of Education, Rockville, soon ready for bids for second unit of school; \$200,000, 2 and 3 stories, brick, stone, rein. conc., struct. steel, slag roof; Howard W. Cutler, Archt., 1800 E St., Washington.

Md., Charlotte Hall—Charlotte Hall School has low bid from Morrison Bros., Bethesda, for addition to school; Howard W. Cutler, Archt., 1800 E St., N. W., Washington, D. C.

Miss., Ellisville—City votes Aug. 4 on \$20,000 bonds for school; address Bd. of Education.

N. C., Glade Valley—Bd. of Trustees of Glade Valley High School, operated by Winston-Salem and Orange Presbyteries, authorized erection of gymnasium and several repairs; E. B. Eldridge, Supt.-Treas.

Miss., Hickory Flat—Bd. of Trustees erect high school; bids in.

Okla., Poteau—School Bd. having plans prepared by Carnall Wheeler, Kennedy Bldg., Fort Smith, Ark., for \$25,000 brick school; ready for bids about July 25. 5-14

Okla., Stillwater—Oklahoma Agricultural and Mechanical College ready for bids about August for dormitory; Layton, Hicks & Forsyth, Archts., Braniff Bldg., Oklahoma City. 5-14

Okla., Sulphur—State Bd. of Affairs, W. C. Hughes, Chmn., Oklahoma City, erect \$85,000 brick, rein. conc. and stone industrial building at Oklahoma School for Deaf; Layton, Hicks & Forsythe, Archts., Braniff Bldg., Oklahoma City; bids in.

Tenn., Nashville—Bd. of Education, Albert E. Hill, Pres., reported, receives bids Aug. 11 for \$500,000, 3-story and basement, 25x300 ft. East Nashville Sr. High School; auditorium to seat 1500 capacity, cafeteria seating 500 and conc. stadium to seat 10,000; Marr & Holman, Archts., Stahlman Bldg. 6-4

Tenn., Nashville—Davidson County Bd. of Education, E. W. White, Sec., soon let contracts for brick school at Jordania to replace previously burned structure; 5 classrooms; Granberry Jackson, Archt., 220 Capitol Blvd.; also for brick school at Woodmont; 4 classrooms; Tisdale & Pinson, Archts., Ind. Bldg.

Tex., Austin—State Bd. of Control, Claude D. Teer, Chmn., selected Giesecke & Harris, Norwood Bldg., to prepare plans for fireproof, 30-bed hospital building at Deaf, Dumb and Blind Institute for Colored; \$25,000 appropriation. 6-25

Tex., Austin—State Bd. of Control, Claude D. Teer, Chmn., selected H. F. Kuehne, as architect for fireproof dormitory at Austin State School for Feeble-minded; \$50,000 appropriation. 6-25

Tex., Gatesville—State Bd. of Control, Claude D. Teer, Chmn., Austin, selected T. Brooks Pearson, 501 First State Bank Bldg., Waco, to prepare plans for fireproof dormitory at State Juvenile Training School for Negro Boys; \$30,000 appropriation. 6-25

Tex., Houston—Rice Institute has permit for \$25,000 field house.

Tex., Palestine—City, C. L. Kolstad, Pres., School Bd., probably vote Aug. 17 on \$20,000 school improvement bonds.

Tex., Mason—Mason Ind. School Dist. rejected bids for boiler house and heating plant for high school, new bids to be opened July 24; Will N. Noonan Co., Archts., Builders Exchange Bldg., San Antonio. 7-18

Tex., Runge—Yates Creek School Dist., R. W. Gauss, Jr., Trustee, voted \$10,000 bonds for 3 school buildings.

Tex., San Antonio—Bd. of Education, Mrs. J. E. King, Pres., receives bids July 30 for following equipment for \$1,250,000 Thomas Jefferson High School on Ronaldson Ave.: Electric fixtures and fans, radio and public address system, window shades and draperies, paper and soap dispensers; Adams & Adams, Archts., Western Natl. Bank Bldg.; Phelps & Dewees, School Archts., Gunter Bldg.; Walsh, Burney & Key, Gen. Contrs., 928 N. Flores St. 4-9

Tex., San Antonio—Bd. of Education, Mrs. J. E. King, Pres., plans to erect following schools later with \$1,000,000 remaining from 1930 \$1,750,000 bond issue of which \$750,000 bonds were recently sold: South Side Senior School, junior school on North Side, negro elementary and junior school and 20-room elementary school on West Side; Phelps & Dewees, Supvg. Archts., Gunter Bldg.; all buildings brick and rein. conc.; architects selected and reported in 7-16.

Va., Accomac—Lee School Dist. voted \$60,000 bonds for brick high school at Accomac County Courthouse; address Accomac County Bd. of Education. 6-4

Va., Chatham—Pittsylvania County Bd. of Education receives bids July 29 for three schools, located at Cascade, Dixie and Whitmell; plans by Raymond V. Long, Archt. for State Bd. of Education, Richmond.

Va., Fairfax—Fairfax County School Bd., Wilbert T. Woodson, Div. Supt., erect school at Franconia; bids in; 4 classrooms and auditorium, cinder block faced with brick; plans by Raymond V. Long, Archt., for State Bd. of Education, Richmond. 6-18

Va., Pongoteague—Pongoteague School Dist. defeated \$75,000 bonds; address Accomac County Bd. of Education, Accomac. 6-4

Va., Tangier—Tangier School Dist. voted \$10,000 bonds for school on Tangier Island; address Accomac County Bd. of Education, Accomac. 6-4

Stores

Fla., Miami—Morris Rubin, care Henry J. Maloney, 802 Professional Bldg., has low bid from Fred Howland, 1600 N. W. 14th St., for \$10,000, rein. conc., block and stucco store, containing 4 shops, Biscayne Blvd.; tile or terrazzo floors. 7-2

Ga., Atlanta—Whitehead Realty Co., Norris Bldg., considering remodeling 4-story and basement building, 486 W. Peachtree St., N. W.

Ga., Atlanta—W. L. Randall, 95 Marietta St., N. W., remodel store and office building, 35 Marietta St., N. W.; 4 stories and basement, 27x105 ft., rein. conc. and brick, new floors, millwork, painting, comp. roof, limestone or terra cotta front; Daniel & Beutell, Archts., 701 Georgia Savings Bank Bldg.; Robert S. Fiske, Engr., 1421 Healey Bldg.

Ky., Fulton—Julius Cohn Estate erect 2-story, 20x100-ft. brick building on Lake St. to replace structure recently burned; dumb waiters, elevators, built-up roof.

La., Hammond—Italian Co-Operative Assn. rejected bids for one-story, 36x80 ft., brick and steel frame store; comp. roof; A. S. Montz, Archt., 740 Poydras St., New Orleans.

Md., Baltimore—John Dernoga, 2236 Sidney Ave., has low bid from Fred Keller & Son, 3405 Echodale Ave., for 2-story, brick store and apartment, 2215 Annapolis Ave.; F. Edw. Tormey, Jr., Archt., 2 E. Lexington St. 7-16

Md., Baltimore—John Faul, 5419 Harford Road, soon ready for bids for 1-story, 25x65 ft., brick store; Samuel Smulian, Archt., 3721 Belle Ave.; Sanitary Grocery Co., Lessee, 932 Linden Ave.

Md., Baltimore—S. Trovenza, 6416 Frederick Ave., having plans revised by Samuel Smulian, 3721 Belle Ave., for 1-story, 35x70 ft., brick store. 7-16

Okla., Tulsa—Tom Collins, Archt., advises \$20,000 building for Daniels Investment Co. held up indefinitely. 7-16

Tex., Cuero—Charles Lenz having plans prepared by Adriaks & Son for store on E. Main St. 7-16

Tex., San Antonio—Darol Roberts remodel 2-story building, 124 Losoya St.

Theatres

La., Abbeville—R. J. Montague has low bid at \$21,400 from E. E. Rabalais & Son, Bunkie, for 50x121 ft. brick New Frank's Theater; Charles Davis, Archt., 1204 Jackson Ave., New Orleans. 7-2

Warehouses

Tex., Houston—Mrs. Esperson Stewart, Esperson Bldg., has permit for extension to warehouse, 6205 Esperson St.; \$22,000.

BUILDING CONTRACTS AWARDED

Association and Fraternal

Okla., Oklahoma City—Additional sub-contracts let on \$500,000 Y. W. C. A., on which conc. frame and brick work is completed and roughing in for plumbing, heating and wiring under way: Steel sash, Detroit Steel Products Co., 2250 E. Grand Blvd., Detroit, Mich.; granite, Cold Spring Granite Co., Cold Spring, Minn.; art stone, Algonite Stone Manufacturing Co., East Park and Irving Sts.; marble and tile work, Taylor Marble & Tile Co., Inc., 511 W. Pine St.; terrazzo work, Standard Terrazzo Co.; bronze entrance doors, Bissell Builders Supply Co., Colcord Bldg.; painting, C. G. Hill Co., 406 N. Broadway; glass and glazing, United Plate & Window Glass Co., 314 W. First St.; millwork, Oklahoma Sash & Door Co., 8 E. Grand St.; plastering and lathing, Ray Alexander, Trades Natl. Bk. Bldg.; roofing and sheet metal, Swanda Bros., 510 W. Second

St., all Oklahoma City; conc. form work, Southwest Flexible Form Co.; kitchen conveyors, Standard Conveyor Co., North St. Paul, Minn.; lockers, Oklahoma Equipment Co.; hollow metal doors and frames, Lusco Brick & Stone Co., Commerce Exch. Bldg.; plumbing and heating, A. F. Binns Co., 815 W. Grand St.; elect. wiring, Oklahoma Electrical Supply Co., 209 W. First St.; waterproofing swimming pool, Midwest Steel Co., First Natl. Bank Bldg.; Hawk & Parr, Archts., First Natl. Bank Bldg.; J. H. Frederickson & Co., Contrs., 505 Baltimore Bldg., all Oklahoma City. 1-29

Va., Tenn., Bristol—Masonic Temple Assn. let contract to C. J. Kingsolver for \$85,000 temple; brick and tile, stone trim; G. M. & G. C. Stone, Archts. 5-28

Bank and Office

Ala., Birmingham—Dr. James Alto Ward,

604 N. 20th St., erect 2-story office bldg., 2021 Sixth Ave., North; Jacob E. Salle, Archt., Empire Bldg.; Miller Bros., Contrs.

D. C., Washington—Standard Oil Company of New Jersey, 241 Pennsylvania Ave., N. W., let contract to James Stewart & Co., Inc., 230 Park Ave., New York, for \$1,000,000 office and garage bldg., steel frame, conc. floors, stone, 6 stories and basement, 71x335 ft. with 200x20 ft. court in rear above second floor; Clyde N. & Nelson Friz, Archts., Lexington Bldg., Baltimore, Md.; Lynn Rosebrook, company architect, 26 Broadway, New York; Herman F. Doeelman, Struct. Engr., Balto. Trust Bldg.; Reeder, Elizer & Akers, Mech. Engrs., 916 N. Charles St., both Baltimore.

Ga., Atlanta—Fulton National Bank let contract to Ray M. Lee, 1071 N. Highland Ave., N. E., for branch bank, Peachtree Rd. and Sims Ave.; rein. conc., struct. steel, brick and hollow tile, limestone, granite, marble, cast stone, 1 story, mezzanine and basement, 115x72x54x100 ft., bronze doors, terrazzo, asphalt tile and ceramic tile floors, tar and gravel roof, gas-steam heat; Pringle & Smith, Archts., Norris Bldg. 7-9

Ky., Louisville—J. D. Jennings, 443 Garden St., has contract to remodel and alter Keller Bldg., Fifth and Main Sts.; \$25,000; E. T. Hutchings & Associates, Archts., Heyburn Bldg.

Tex., Corsicana—First National Bank remodel bldg.; \$14,250; A. E. Haslam, Contr.

Churches

D. C., Washington—Protestant Episcopal Cathedral Foundation, Mount St. Albans, have permit to complete north transept of Washington Cathedral under constr.; Frohman, Robb & Little, Archts., 140 Boylston St., Boston, Mass., and 19 Jackson Place, Washington; George A. Fuller Co., Contr., Munsey Bldg., Washington. 7-3-30

Okla., Quinton—Methodist Church let contract at \$15,577 to Z. S. Rambo, 3418 Kinkadee St., Fort Smith, Ark., for brick bldg.; 1 story and basement; Haralson & Nelson, Archts., Merchants Natl. Bank Bldg., Fort Smith. 6-25

Okla., Sayre—First Methodist Church, Rev. T. W. Weeks, Pastor, let contract to Lee Wade, Duncan, for brick veneer auditorium, after plans by Hawk & Parr, Archts., First Natl. Bk. Bldg., Oklahoma City; 1 story, 38x76 ft., seat 450; pipe organ. 7-2

Va., Hampton—First Methodist Church remodel and enlarge bldg.; \$35,000; new pipe organ; Crockett & Perfater, Contrs.

City and County

Tex., Amarillo—Borger-McCormick Co. has contract for 243 Venetian blinds for \$420,000 Potter County court house; elect. fixtures, fans and 10 elect. clocks, Broome Electric Co., 112 W. Sixth St.; toilet accessories, Amarillo Tile & Marble Co., 214 E. Seventh St.; jail refrigeration, W. L. Finklea Electric Co., 1511 Polk St.; jail kitchen furniture, Williams Hardware Co., 613 Taylor St.; beds, Green Brothers Company, 601 Taylor; misc. office equipment, Russell Stationery Co.; bids rejected for general furniture and for courtroom furniture and steel equipment, including desks and tables; Townes, Lightfoot & Funk, Archts., Smith Bldg., Amarillo; Page Bros., Asso. Archts., Austin Natl. Bk. Bldg., Austin, Tex.; C. S. Lambie & Co., Contr. Amarillo Bldg., Amarillo. 2-5

Tex., San Antonio—Bexar County Commrs. Court let contract at \$47,105 to Louis Guido, 1510 W. Martin St., for Juvenile Home for Boys; administration bldg. with 2 cottage wings, accommodate 60; brick, tile and stucco, rein. conc. foundation and floor slab, metal lath; Harvey P. Smith, Archt., Natl. Bk. of Commerce Bldg.; W. E. Simpson Co., Engr., 942 Milam Bldg. 7-16

Dwellings

Ala., Birmingham—Gerry Cabaniss let contract to J. O. Hayley & Son, 110 Princeton Ave., for brick veneer and stone residence; 2 stories and basement, 86x65 ft.; Miller & Martin, Archts., Title Guar. Bldg.

Ala., Birmingham—Mrs. G. H. Stubbs, 1800 S. 12th Ave., let contract to L. E. Ford, Mountain Brook Village, for brick veneer residence; 2 stories and basement, 105x24 ft.; D. O. Whilldin, Archt., 515 N. 21st St. 6-18

Ala., Birmingham—Dominick Simonetti, 629 N. Eighth Ave., erect brick veneer residence, Bush Hills; 1 story and basement, 68x38 ft., conc. tile roof, tile baths, steam heat; Edw. D. Slater, Archt., 1800 N. Eighth; J. E. Cater, Contr., care Owner.

Ala., Birmingham—Mrs. Mary Simonetti, 600 Graymont Ave., erect brick veneer residence, Bush Hills; 1 story and basement, 75x35 ft., conc. tile roof, tile baths, rein. conc. foundation, steam heat; Edw. D. Slater, Archt., 1300 N. Eighth Ave.; J. E. Cater, Contr.

D. C., Washington—Chas. D. Sager, 924 14th St., N. W., has permit for 11 brick dwellings, 412-32 23rd St., N. E.; 2 stories; total \$555,000; owner builds.

D. C., Washington—Chas. S. Teal, 33rd and K Sts., N. W., erect 2-story frame residence, Kenwood, Md.; slate roof, hot water heat; A. H. Sonneman, Archt., 2400 16th St., N. W.; E. A. Passagno, Contr., 2301 Cathedral Ave., N. W.

D. C., Washington—G. A. Marinari, 924 G St., S. E., erect brick residence, 505 M St., N. E.; 2 stories, tin roof, hot water heat; plans by Wm. Halfpapp, 707 D St., S. E.; owner builds.

D. C., Washington—Jas. McClellan, 3827 Livingston St., N. W., erect brick and frame residence, 5433 33rd St.; 2 stories, slate and tin roof, hot water heat; owner builds.

D. C., Washington—J. E. Fox, Bldr., 4525 South Dakota Ave., has permit for 2 brick and tile dwellings, 4500-02 South Dakota Ave., N. E.; 2 stories; total \$12,000.

D. C., Washington—Warren & Marthinson, 1909 Massachusetts Ave., N. W., have permit for three dwellings, 3619-23-27 Chesapeake St.; brick, 2½ stories; total \$23,500; owners build.

D. C., Washington—Harry Spund, 4317 15th St., erect \$12,500 brick and hollow tile residence, 3814 Livingston St.; 2 stories, slate roof, hot water heat; plans by E. B. Griffin; Griffin Bros., Contrs., 1343 H St., N. W.

D. C., Washington—W. C. & A. N. Miller, 1119 17th St., N. W., have permit for \$14,000 dwelling, 4915 Blenbrook Rd., N. W.; brick and frame, 3 stories; owners build.

D. C., Washington—Washington Building & Construction Co., 1427 1 St., N. W., has permit for 4 brick dwellings, 423-29 Ingraham St., N. W.; 2 stories; total \$25,000.

Fla., Miami Beach—Scott Braznell, 4310 Collins Ave., erect \$35,000 residence, Indian Creek and 37th St.; 2 stories, garages, servants' quarters; rein. conc., conc. block and stucco, tile and oak floors, tile roof, probably steel sash, piling, landscaping, driveways, etc.; E. L. Robertson, Archt., Calumet Bldg., Miami; J. C. Gaffney Co., Contr., 933 Lincoln Rd., Miami Beach.

Ga., Atlanta—H. Kunlansky, Inc., 1045 Washington Ave., S. W., erect dwelling, 436 Claire Drive, N. E.; 7 rooms, 2 baths, hardwood and tile floors, comp. roof, steam heat; day labor.

Ga., Atlanta—Herbert Kaiser & Co., Citizens & Southern Bk. Bldg., erect brick veneer residence, Sussex Rd.; 1 story and basement, conc. foundation, hardwood and tile floors, comp. or slate roof; owners build.

Ga., Atlanta—Norris Construction Co., 161 Spring St., N. W., erect brick veneer dwelling, Rumson Rd., Garden Hills; 2 stories and basement, conc. foundation, hardwood and tile floors, comp. or slate roof, steam heat.

Ga., Atlanta—Mrs. Theodosia Wardell, Mt. Vernon, Ohio, erect brick veneer residence, 1654 Noble Drive, N. E.; 1½ stories and basement, 7 rooms, 2 baths, hardwood and tile floors, comp. roof, slate roof, hot air heat; day labor.

Ga., Savannah—Harvey Granger, 44th and Harmon Sts., erect brick residence, 47th St. near Paulsen St.; 3 tile baths.

La., New Orleans—Mrs. C. M. Drolls, 2040 Desire St., erect single raised residence, Gallier St. near Tonti St.; Jones, Roessle & Olschner, Archts., Maison Blanche Bldg., receive sub-bids until July 29; conc. foundation, brick, cast stone, wrought iron, tile work, cedar lining, disappearing stairway, tile roof, sheet metal work, linoleum, Florentine glass, warm air heat, oil burner.

Md., Baltimore—Maurice Moyer, Edmondson Ave. and Plymouth Rd., let contract to Fred Keller & Son, 3405 Echodale Ave., for frame duplex, Plymouth Rd.; 2 stories, 30x40 ft. 6-11

Md., Baltimore—Pinewood Park Co., 4341 Harford Rd., completed plans for 4 dwellings and garages, 3103-09 Pinewood Ave.; 1-story, 24x38 ft.; owner builds.

Md., Baltimore—Baltam Realty Co., care Peyton B. Strobel, 206 E. Lexington St., completed plans for first 2 of 14 dwellings, 3800 block Strathmore Ave.; frame and stucco, 2 stories, 28x40 ft.; Kenneth C. Miller, Archt., 206 E. Lexington St.

Md., Baltimore—John C. Vollbracht, 1326 S. Charles St., let contract to W. H. Ziemer Realty Co., 1113 W. Lanvale St., for brick

residence, Hunting Ridge, after plans by F. Edward Tormey, Jr., 2 E. Lexington St.; 2 stories, 42.9x33.6 ft. 7-2

Md., Baltimore—Albert Anderson, care Western Electric Co., erect bungalow, 639 Murdock Rd., Anneslie; Charles H. Steffey, Inc., Contr., 336 N. Charles St.

Md., Baltimore—J. Hubwitz, care Benj. Kleiman, Contr., 5103 Beauford Ave., erect 2 brick dwellings, 3501-03 Springdale Ave.; 2 stories, 34x44 ft.

Md., Glenburnie—Sillery Bay Development Co., Sillery Bay, erect conc. block and stucco dwelling; 1 story; Bernard Evander, Archt., 20 E. Lexington St., Baltimore; owner builds.

Mo., St. Louis—Thos. S. McPheeters, Boatmen's Bank Bldg., erect \$45,000 residence, 5155 W. Moreland Place; brick, 3 stories, 75x102 ft., slate roof; Jamieson & Spearl, Archts., 1116 Arcade Bldg.; Woermann Construction Co., Contr., 3800 W. Pine Blvd.

Mo., St. Louis—Hy Knippenberg, 4501 Varrelman St., erect \$12,500 brick residence, 5358 Neosho St.; 2 stories, 37x73 ft., tile roof, hot water heat; G. B. Robertson, Archt., 8832 Forest St.; H. H. Rolfe, Contr., 4037 Delor St.

Okla., Tulsa—Walter L. Ditzler, Exch. Bk. Bldg., erect \$15,000 brick veneer residence; 2 stories and basement, 32x56 ft.; owner builds.

Okla., Tulsa—Elzada O. Buck, 1101 S. Cheyenne St., finished excavating for \$14,000 brick residence, after plans by Fred L. Knoblock, Court Arcade Bldg.; 2 stories, 60x40 ft., hardwood floors, poured conc. foundation, shingle roof; Stewart & Labbe, Contrs., Cole Bldg. 7-16

S. C., Columbia—Mrs. Dorothy Burney Rogers erect \$13,000 residence; contract let.

Tex., Houston—Benson-Hall Co., Post-Dispatch Bldg., has permit for \$10,000 dwelling, 2439 Inwood St.; brick veneer, 8 rooms.

Va., Martinsville—Irving W. Ramsey excavating for brick case residence, Thomas St.; 2 stories, 30x49 ft., slate or asbestos roof, full conc. basement; plans by Wood Construction Co., United Cigar Stores Bldg., Roanoke; owner builds. See Want Section—Building Material and Equipment. 4-23

Va., Westhampton, R. R. Station, Richmond—Mrs. Klein erect brick residence, Three Chopt Rd.; Jos. F. Black, Contr., 105 Libby St., Richmond.

Government and State

D. C., Washington—Navy Dept., Bureau of Yards and Docks, let contract at \$48,300 to United Marble Co., Inc., Liberty Trust Bldg., Philadelphia, Pa., for alterations and repairs to quarters, Naval Observatory. 7-9

D. C., Washington—Federal Heating Corp., Bond Bldg., has contract at \$21,688 for relocating 2 boilers, etc., Treasury Bldg. 7-2

Ga., Monroe—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$39,658 to James C. Miller, Campbellsville, Ky., for post office. 7-16

Ga., Rossville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$42,036 to James C. Miller, Campbellsville, Ky., for post office. 7-16

Ga., Sandersville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$37,313 to C. A. Morrison & Son, Shelby, N. C., for post office. 7-16

Ga., Thomson—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$37,313 to C. A. Morrison & Son, Shelby, N. C., for post office. 7-16

Ga., Toccoa—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$38,602 to James C. Miller, Campbellsville, Ky., for post office. 7-16

Ga., Waynesboro—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$40,350 to James C. Miller, Campbellsville, Ky., for post office. 7-16

Ky., Louisville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$1,507,700 to Pike & Cook Co., Inc., Minneapolis, Minn., for post office, court house and custom house. 7-2

La., Barksdale Field, Shreveport—R & H Electric Co., S. Green St., Longview, Tex., have elect. work contract for 42 company officers' quarters, Barksdale Field; millwork, Victoria Lumber Co., Ltd., 119 Spring St., Shreveport; Ashton Glassell Co., Inc., Contr., 260 Cadillac St., Shreveport. 6-18

Mo., Unionville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$44,985 to James McHugh Sons, Inc., 840 W. 70th St., Chicago, Ill., for post office, 2 stories, 56x56 ft., cast

stone, hardwood and tile floors, limestone, marble, metal doors, tile roofing, steel cash and trim, hollow tile, vaults, brass and bronze work. 7-9

N. C., Raleigh—State Hospital, Albert Anderson, Supt., let contract at \$32,986 to J. N. Bryan & Son, Rogers Bldg., Raleigh, for addition to bldg. for criminal insane; Chas. C. & Walter W. Hook, Archts., Commercial Bk. Bldg., Charlotte, N. C.; Wiley & Wilson, Heating Engrs., Peoples Natl. Bk. Bldg., Lynchburg, Va. 7-2

Okla., McAlester—Cosgrove & Maher, Commerce Exch. Bldg., Oklahoma City, have contract at \$16,867 for refrigeration plant, State Penitentiary.

Tex., El Paso—Department of Justice, Bureau of Prisons, Sanford Bates, Director, Washington, D. C., let contract at \$305,900 to Robert E. McKee, 1916 Texas St., El Paso, for Federal House of Detention; rein. conc., struct. steel, cast stone, 2 stories, steel sash, steel doors, steel cells, metal lath and plaster, metal partitions, tile, comp. and asbestos shingle roof; Trost & Trost, Archts., Two Republics Bldg., El Paso. 7-9

Tex., Randolph Field—Kirkwood & Wharton, Inc., 517 N. Flores St., has contract at \$5560 for hot water heating equipment for 2 bachelor officers' quarters and dining hall, 2 flying cadet barracks, headquarters mess and recreation hall and hospital and detachment barracks, Randolph Field. 7-16

Va., Langley Field, Hampton—Detroit Steel Products Co., Washington, has contract at \$3000 for window screens for 17 double non-commissioned officers' quarters; Kane Manufacturing Co., Kane, Pa., contract at \$5069 for window and door screens for 13 double non-commissioned officers' quarters and door screens for 17 non-commissioned officers' quarters. 7-16

Va., Manassas—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$42,500 to Algernon Blair, First Natl. Bank Bldg., Montgomery, Ala., for post office. 7-10

Va., West Point—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$46,000 to Algernon Blair, First Natl. Bank Bldg., Montgomery, Ala., for post office. 7-16

Hospitals, Sanitoriums, Etc.

Ala., Birmingham—Children's Hospital, Avenue G and 30th St., let contract at \$48,000 to L. E. Ford Construction Co., Montevallo Rd., to remodel bldg.; struct. steel frame, bar joist and conc. floor, brick and hollow tile, 3 stories, 65x57 ft., linoleum, terrazzo and comp. tile floors, conc. foundation, built-up tar and gravel roof, elect. refrigerators, elevators, limestone, marble metal doors, steel sash and trim, ventilators, wire glass; Miller & Martin, Inc., Archts.; J. A. Lewis, Inc., Engrs., both 909-12 Title Guar. Bldg. 6-25

Ga., Rome—McCall Hospital, Dr. Cheney, erect brick and hollow tile nurses' home; 2 stories and basement, 45x100 ft., comp. roof, conc. foundation, hardwood and tile floors, wood joist, steam heat; Joe Morris, Contr. 7-16

La., New Orleans—Otis Elevator Co., 852 Carondelet St., has elevator contract for 8 personnel quarters, U. S. Marine Hospital; R. P. Farnsworth & Co., Inc., Contrs., Maritime Bldg., New Orleans. 5-21

Miss., Jackson—State Hospital Removal, Improvement and Land Sale Comsn., R. L. Brown, Sec., New Capitol Bldg., let contract at \$49,880 to W. C. Salley, Ouachita Natl. Bank Bldg., Monroe, La., for Infirmary Bldg. No. 1 and at \$32,292 for attendants' cottage No. 1, \$5,000,000 Mississippi Hospital for Insane; attendants' cottage No. 2, \$29,000, and infirmary bldg. and 3 patients' cottages, all Negro Group No. 2; power distribution for negro groups, Bert Pinch, 1726 Tusculosa St., Birmingham, Ala., at \$856; wiring for 10 bldgs., Otto Williams, Jackson, at \$8,566; N. W. Overstreet, Archt., Standard Life Bldg., Jackson; Vinston B. Smith, Advisory Archt., Gulfport. 7-16

N. C., Raleigh—State Hospital, Dix Hill, alter and erect additions to bldg. for criminal insane; C. C. & W. H. Hook, Archts., Commercial Bank Bldg., Charlotte; contracts let.

Okla., Anadarko—City Council started work on \$50,000 hospital; concrete and brick, cast stone, dumb waiters, terrazzo, tile and comp. floors, vaults; Edw. J. Peters, Archt., Shawnee; R. M. Everett, Contr., Tecumseh. See Want Section—Building Material and Equipment. 7-16

Hotels and Apartments

D. C., Washington—Triangle Realty Co., Inc., has permit for four 2-story, brick apartments, 1245-51 South Carolina Ave., S. E.; \$36,000.

D. C., Washington—Young & Oppenheimer, 914 F St., N. W., have permit for six 2-story, brick apartments, 1110-12 Raum St. and 1701-15 W. Virginia Ave., N. E.; \$75,000; owners build.

D. C., Washington—Southern Construction Co., Max Gorin, Pres., Tower Bldg., has permit for \$500,000, 5-story, stone and conc., 117-apartment building, 3726 Connecticut Ave.; M. Mesrobian, Archt., 5115 Forty-first St., N. W. 7-9

D. C., Washington—Capital Fireproof Products Corp., Rosslyn, Va., reported, has contract for 110 tons rein. steel for \$330,000 Congressional Apartments for Board of Temperance, Prohibition and Public Morals, Methodist Episcopal Church, 100 Maryland Ave., N. E., for which Chas. H. Tompkins Co., 1608 K St., N. W., has general contract; E. L. Bullock, Archt.; Leo Raywid, Engr., both 1608 K St., N. W. 7-9

D. C., Washington—Capritz Construction Co., 1404 K St., N. W., erect five 2-story, brick flats, 5821-37 Colorado Ave.; \$35,000; slag and shingle roof, gas heat; A. L. Aubinoe, Archt., 3384 Stuyvesant Place, N. W.; owner builds.

Fla., Miami Beach—Harry Granger, 2169 S. W. 14th Terrace, Miami, soon begin work on \$25,000, 2-story, 40x44 ft., rein. conc., conc. block and stucco, 4-unit apartment, Meridian Ave.; George Bruce, Archt., Security Bldg., Miami; Arthur H. Fox, Supt. of Construction. 7-16

Miss., Meridian—J. E. McGinnis, Threefoot Bldg., let contract to Acme Building & Supply Co., 18th Ave., for \$16,000, 2-story, 48x50 ft., brick veneer, 5-apartment building.

Mo., St. Louis—Robert W. Hammerstein, 3216 Arsenal St., has permit for 2-story, 28x30 ft., brick tenement, 4990 Fairview St.; slate roof, hot water heat; Harper & Koeln Builders, Contr., 4327 Roland St.; R. McMahon, Archt., Buder Bldg.

Mo., St. Louis—Edw. F. Scoboda, 1807 Gravois Ave., has permit for 2-story, 21x50 ft., brick tenement, 4035 Connecticut St.; asphalt shingle roof, hot air heat; J. W. Kamleiter, Archt.-Bldr., 1809A Gravois Ave.

Mo., St. Louis—Arco Investment Co., 808 Chestnut St., has permit for \$10,000, 2-story, 37x53 ft., brick tenement, 5304-06 Miami St.; asphalt shingle roof, hot air heat; Swan Supply Co., Bldr.; Oliver J. Popp, Archt., 1528 Arcade Bldg.

Mo., St. Louis—Ray S. Sanders, 3901 Wilmington St., has permit for \$10,000, 2-story, 36x49 ft., brick tenement, 4123-25 Bates St.; comp. shingle roof, hot air heat; Sanders Bros., Bldrs., 3901 Wilmington St.

Okla., Oklahoma City—Huckins Hotel, Marquand Huckins, Mgr., let contract to C. E. Huffman & Son, S. W. Natl. Bank Bldg., for \$75,000, 7-story, fireproof hotel garage; accommodate 150 cars; Thomas L. Sorey, Archt., 14 N. Broadway. 6-25

Tex., Lampasas—J. R. Key erect 7-room 29x29 ft. addition and enlarge lobby of Keystone Hotel; plans drawn and contract let.

Tex., San Antonio—Edw. D. Cohenauer, 515 W. Kings Highway, has permit for \$15,000, brick veneer, 6-apartment buildings, 209 E. Rosewood St.; M. L. Case, Contr., 112 W. White St.

Va., Fredericksburg—E. G. Heflin Co., Inc., erect 75-room hotel on Richmond-Washington highway near Fredericksburg to be known as "The Stratford"; \$100,000, conc., brick and steel, 4 stories, 35x200 ft., conc., comp. or rubber floors, slate roof, elevators; work started by day labor; E. G. Heflin, Archt.

Va., Norfolk—Shirley Holding Corp. let contract at \$40,000 to C. Q. Nugent, Law Bldg., for 12-family apartment, 811 Shirley Ave.

Va., Norfolk—Ralph E. Bush erect \$20,300, 6-apartment building, 4800 Colonial Ave.; Bush & Bond, Contrs.

W. Va., Clarksburg—H. T. Hardesty, Wilsonburg, has permit for \$10,000, 2-story, brick, conc. and stone, 10-apartment building on S. Sixth St.

Miscellaneous

Fla., Hialeah—Miami Racing Assn., Joseph E. Widener, Chmn. of Bd., Land Title Bldg., Philadelphia, and Palm Beach, and Frank K. Bruen, Mgr.-Dir., 5632 Sheridan Ave., Miami Beach, let contract to St. John Construction Co., 629 N. W. Seventh St., Miami, for 24 stables with capacity of 1700 horses, cost \$250,000; Smith & Riddle, Supvg. Engrs., West Palm Beach; L. W. Geisler, Archt., 19 Via Parigi, Palm Beach. 7-9

Fla., Miami Beach—Bath Club, 5937 Collins Ave., erect additions and remodel club building; Robert A. Taylor, Archt., Espanola Way; bids in.

Md., Baltimore—St. Anthony's Catholic Church let contract to John J. Kirchner, 4001 Woodlea Ave., for alterations and addition to convent, 414 Frankford Ave.

Railways Stations, Sheds, Etc.

Mo., St. Louis—Following sub-contracts awarded on \$5,000,000 universal warehouse and freight terminal, High St. between Morgan St. and Lucas Ave., for Midwest Industrial Development Co., Shell Bldg., holding company for Illinois-Terminal R. R. System, A. P. Titus, V.-P.-Gen. Mgr., for which Selden-Breck Construction Co., Fullerton Bldg., has general contract at \$1,000,000: Granite, North Star Granite Co., St. Cloud, Minn.; limestone, Indiana Limestone Co., Bedford, Ind.; rein. steel, Missouri Rolling Mill Corp., 6800 Manchester St., and Laclede Steel Co., Arcade Bldg.; glass and glazing, Hadley-Dean Glass Co., 703 N. 11th St.; plumbing, McBride Mechanical Equipment Co., 2639 Locust St.; cement finish, Dailey Contracting Co., 317 N. 11th St.; freight elevator doors, Security Fire Door Co., 3044 Lambdin St., and St. Louis Fire Door Co., 1134 S. Sixth St.; terrazzo, American & Venetian Terrazzo Co., Wainwright Bldg.; orna. iron, Lasar Manufacturing Co., 1313 N. 16th St.; wrought iron sash, Meeker Bros. Iron Co., 424 S. Seventh St.; marble, Union Marble & Tile Co., 1115 S. Seventh St.; cork insulation, Armstrong Cork Co., 204 S. Third St.; plastering, Niehaus Plastering Co., 317 N. 11th St.; sheet metal, Western Sheet Metal Works, 4466 Finney St.; hollow metal work, Niedringhaus, Inc., 5739 Natural Bridge St.; rolling steel doors, Kinnear Manufacturing Co., 2665 Washington St.; millwork, Lecoutour Bros. Stair Co., 3176 Brannon St.; electric work, Mound City Electrical Engineering Co., 222 S. Eighth St.; cement, sand and gravel, General Material Co., Buder Bldg.; form lumber, Philip Gruner & Bros. Lumber Co., 4006 N. Broadway, all St. Louis; Mauran, Russell & Crowell, Archts., Chemical Bldg.; J. A. Hooke, Conslt. Engr., Buder Bldg. 7-2

Schools

Ark., Clarksville—School Bd., A. Bost, Pres., let contract to Walton & Ward for \$21,536, 2-story and basement, brick grammar school; Haralson & Nelson, Archts., Merchants Natl. Bank Bldg., Fort Smith. 6-25

D. C., Washington—District Commrs., Roland M. Brennan, Ch. Clk., Engr. Dept., District Bldg., let contract at \$106,900 to Chas. S. Bennett, Inc., 4700 Springfield Ave., Philadelphia, Pa., for 2-story and basement, brick Benjamin Stoddert School; A. L. Harris, Municipal Archt., Dist. Bldg. 7-16

Ky., Ludlow—Bd. of Education, reported, let contract at \$116,520 to W. B. Catching & Co., Lexington, for 2-story and basement, 90x128-ft., rein. conc. and brick school on Elm St.

La., New Orleans—Riecke Cabinet Works, 4201 Tulane Ave., has contract for plastering and Walter Scrimshaw, 4300 Elba St., has contract for painting for 10-story Louisiana State University Medical Center for which R. P. Farnsworth & Co., Inc., Maritime Bldg., have general contract at \$529,189; Weiss, Dreyfous & Seiferth, Archts., Maison Blanche Bldg. 7-2

La., New Orleans—Orleans Parish School Bd., Henry C. Schaumburg, Pres., let contracts as follows for furniture and equipment for Eleanor McMain High School under construction at Claiborne Ave. and Joseph St.; Opera chairs and stools, \$7129, W. W. Welch Manufacturing Co.; 1200 tablet arm-chairs, \$4680, M. C. Parker, Inc., 445 Camp St.; desks, table and 1000 lockers, \$3052, Dameron-Pierson Co., Ltd., 400 Camp St.; J. A. Petty & Sons, Inc., Audubon Bldg., have general contract at \$525,985; E. A. Christy, Supvg. Archt. 2-12

La., New Orleans—Following sub-contracts awarded on St. Phillip Elementary School for which H. Pratt Farnsworth, Canal Bank Bldg., has general contract at \$138,562, working on foundation: Brick, Schneider Brick & Tile Co., Inc., 1414 Julia St.; building material, J. Watts Kearny & Sons, 514 S. Peters St.; roofing, Olympia Roofing Co., 321 Burgundy St.; rein. steel, Truscon Steel Co., Canal Bank Bldg.; flooring, White Floor Co., 6211 S. Claiborne St.; electrical, Busy Electrical Works, 621 Poydras St.; misc. and orna. iron, struc. steel, James R. Sutton, 4107 Elba St.; plumbing, C. C. Hartwell Plumbing Co., Ltd., 409 Dauphine St.; painting, W. Scrimshaw, 4300 Elba St.; finishing hardware, R. D. Pitard Hardware Co., Inc., 214 Camp St.; sheet metal Holzer Sheet Metal Works, Inc., 321 Burgundy St.; blackboards, Nachary Builders Supply Co., 318 Carondelet St.; piling, Southport Corporation, Inc., New Orleans Bank Bldg., all New Orleans; E. A. Christy, Supvg. Archt. for School Bd. 5-28

La., Simsboro—Lincoln Parish School Bd., H. L. Campbell, Sec., Ruston, let contract at \$32,766 to O. M. Houck, Simsboro, for brick addition to high school and remodeling classrooms; comp. built-up roof, conc. and wood floors; Edw. F. Neild, Archt., City Bank Bldg., Shreveport. 7-9

Md., Baltimore—Bd. of Awards let contract at \$61,949 to Charles L. Stockhausen, Inc., 33 S. Gay St., for addition to School No. 34; Carl F. Strohmeier, Archt., Calvert Bldg.; H. G. Perring, Struc. Engr., Court Square Bldg.; James Posey, Mech. Engr., Baltimore Trust Bldg.; also let contract at \$8525 to Enterprise Electric Co., 4 W. Barre St., for electric work in Schools 1, 1A, 13, 47A, 211, 213, 293, 40A. 7-16

Md., Cumberland—Allegany County Bd. of Education, Ferman G. Pugh, Pres., let contract at \$23,623 to James C. Powell, 19 S. Liberty St., for one-story, brick, 4-classroom school at McCoole; R. Holt Hitchins, Archt., Perrin Bldg. 7-9

Md., Germantown—Anne Arundel County School Commrs., George Fox, Sec., Annapolis, let contract to Samuel B. Dove, Annapolis, for 2-story, frame, 4-room addition to grade school; W. H. Emory, Jr., Baltimore Trust Bldg.; Buckler & Fenhagen, 325 N. Charles St., both Baltimore, Asso. Archts. 7-9

Miss., Saucier—Saucier Consolidated School Dist. Trustees have low bid at \$14,385 from T. H. Massengale, Hattiesburg, for one-story brick school; Shaw & Woleben, Archts., Gulfport. 7-16

Mo., Maryville—School Bd. let contract to Wilson Construction Co., David City, Neb., for building to replace high school recently burned.

Okla., Oklahoma City—Following sub-contracts awarded on \$3,000,000, 26-story Biltmore Hotel, Grand and Harvey Aves., for Oklahoma Hotel Building Co., C. F. Colcord, 421 W. 13th St., on which steel work was recently resumed: Struc. steel, misc. and orna. iron, Midwest Steel Co., First Natl. Bank Bldg.; electric wiring, Oklahoma Electric Supply Co., 209 W. First St.; casement sash, metal doors, Sissell Builders Supply Co., Colcord Bldg.; plumbing and heating, A. F. Blinn Co., Inc., 815 W. Grand St.; stone trim, The Algonite Stone Manufacturing Co., East Park and Irving Sts.; steel smoke stack, The Boardman Co., Maple and Hawk Sts.; ready-mixed conc., Makins Sand & Gravel Co., Commerce Exch. Bldg.; metal double hung windows, Truscon Steel Co., Magnolia Bldg.; asbestos stack lining, Standard Asbestos Manufacturing Co., all Oklahoma City; granite base, North Star Granite Co., St. Cloud, Minn.; vacuum cleaning system, Spencer Turbine Cleaner Co., 101 Park Ave., New York; elevator and dumb waiters, Otis Elevator Co., New York, through Oklahoma City branch, 222 W. Second St.; pneumatic tube system, G. & G. Atlas Systems, Inc., 537 W. Broadway, New York; The Reinhart & Donovan Co., Gen. Contrs., 801-11 Commerce Exchange Bldg.; Hawk & Parr, Archts., First Natl. Bank Bldg., both Oklahoma City. 6-18

Okla., Tiawah—Bd. of Education, T. H. Capp, Clk., let contract at \$11,794 to Love Brothers, Vinita, for one-story, brick school; Joe I. Davis, Archt., First Natl. Bank Bldg., Oklahoma City.

Tex., Kingsville—Kingsville Ind. Dist. School Bd. let contract to George Tillman for one-story, 63x34 ft., struc. clay tile and stucco, brick and rein. conc. grade school addition; conc. and wood floors, clay tile and built-up roof; Natl. M. Hardy, Archt.-Engr., 709-12 Nixon Bldg., San Antonio. 7-9

Tex., San Antonio—Edgewood Common School Dist. No. 41, F. O. Kingery, Pres., Bd. of Trustees, 6804 W. Commerce St., let contract at \$11,185 to Oscar Thornton, Route 4, Box 273, for one-story, 114x62 ft., 5-room, brick and rein. conc. school; J. Clyde & Percy W. Williams, Archts., Fifth Floor, Moore Bldg. 7-16

Stores

D. C., Washington—Mrs. B. B. Horn, care W. S. Plager, Archt., 1930 Kearney St., N. E., erect 2-story, brick shop building in rear of 829 Fourteenth St.; slag roof, steam heat; G. Fitch Gardner, Bldr., 3129 Nineteenth St. 4-23

D. C., Washington—Wm. F. Betzell, 2215 Newton St., N. E., erect \$10,000, 2-story brick store and apartment, 1127 New Jersey Ave.; tin roof, hot water heat; owner builds.

D. C., Washington—Chas. N. Tompkins Co., 1608 K St., N. W., has contract for store, 18th St., N. W.; M. Mesrobian, Archt., 5115 41st St., N. W.

Fla., Miami Beach—L. W. Chickman, 743 Washington Ave., has permit for \$15,000 store; V. L. Nellenbogen, Archt., 925 Lincoln Road; Clayton E. Shappell, Contr., 1350 Collins Ave.

Md., Baltimore—Harry E. Gilbert, 2 E. Lexington St., erect two 1-story, 50x60 ft. semi-fireproof stores, 5007-09 York Road; built-up roof, hardwood and tile floors, marble, metal ceilings; Samuel Smulian, Archt., 3721 Belle Ave.; Franklin Realty & Finance Co., Bldr., 405 W. Franklin St. 7-16

Mo., Maplewood, St. Louis—W. W. Stertzing, 7620 Manchester St., erect 2-story brick store and dwelling; owner builds.

Mo., St. Louis—Union Electric Light and Power Co., 313 N. 12th St., has permit for addition to 3-story, 62x55 ft. brick office and sales building, 815 N. 12th St.; \$36,000; comp. roof; Woermann Construction Co., Contr., 3800 W. Pine Blvd.; Klipstein & Rathman, Archts., 316 Eighth St.

Mo., St. Louis—Emma Ubben, 8635 N. Broadway, has permit for \$10,000, 2-story, 31x42 ft. brick store and tenement, 5577 N. Broadway; comp. roof, hot water heat; Rosell Gassel, Bldr., 1018 Bittner St.; W. R. Manske, Archt., 4060 Olive St.

N. C., Pinehurst—L. C. Fuller erect \$10,000 store building; contract let.

S. C., Charleston—Theater Realty Co. let contract for store front; \$15,000.

Tenn., Memphis—Kate Hamilton Estate, Millard Nail, 113 S. Court St., plans \$29,700 repairs to stores at 92 and 94 S. Main St.; E. J. Pearson, Contr., Fidelity Bank Bldg.

Tex., Lubbock—J. J. Clements has contract for \$33,000 building, Broadway and Texas Ave., to replace old Conley Bldg., previously burned.

Theatres

Md., Cumberland—Capitol Theater Co., Mrs. Grace Fisher, let contract to George F. Hazelwood, Howard St., for \$150,000, 3-story, rein. conc. and steel theater; Hodgson & Hill, Archts., 130 S. 15th St., Philadelphia, Pa. 7-16

Okla., Packingtown—Waseley Hoven started work on \$20,000, 1-story, 50x150 ft., brick theater; Bush Construction Co., Herskowitz Bldg., Contr., Oklahoma City.

Va., Charlottesville—Following additional sub-contracts awarded on theater on Main St. for Paramount-Publix Theaters Corp., Paramount Bldg., New York, Meyer & Engel, 1901 First Ave., Birmingham, Ala., Southern representatives, for which D. J. Phipps, 212 Main St., Roanoke, has general contract, soon ready for plastering: Painting, Paul C. Whitlock; marble and terrazzo, J. H. Marsteller Co., Virginia Ave. Memorial Bridge, both Roanoke; plastering, Carolina Ornamental Works, Inc., Charlotte, N. C.; electrical work, Fleischbach & Moore, Inc., 226 E. 41st St., New York; C. W. & Geo. L. Rapp, Archts., Paramount Bldg., New York. 6-11

Va., Winchester—Snapp's Foundry has contract for steel work for \$100,000 theater for Gem Theater Co., Herman H. Hable, Pres.; Stuart M. Perry excavating; Charles K. Howell, Archt., supervising work. 7-2

Warehouses

Ky., Louisville—Macaroni Co., Carl D. Russell, Supt., Floyd and Southern Ry., erect \$20,000 warehouse addition; J. D. Jennings, Contr., 443 Garden St.

N. C., Goldsboro—Newsom & Taylor erect addition to warehouse; contract let.

N. C., Winston-Salem—Winston Leaf Tobacco & Storage Co., W. A. Goodson, Pres., 12th St., let contract to W. H. Nelson, 718 Arbor Road, for \$30,000, 2-story warehouse to replace warehouse previously noted burned.

Tenn., Knoxville—Charlton Karns, 108 E. Depot St., started work on \$25,000, 1-story, 140x167 ft., brick and steel warehouse, Jackson Ave. and Humes St., to be occupied by King, Dobbs & Co., 416 E. 11th St., Chattanooga, and Siler Brokerage Co., 109 W. Jackson Ave., Knoxville; V. L. Nicholson Co., Contr., 102 W. Church Ave.; Manley & Young, Archts., Medical Arts Bldg.

Sterling Driven Generators.—The Sterling Engine Company, Buffalo, N. Y., has issued a new generator folder and insert, the latter featuring the portable mooring mast at Akron, O., of the Goodyear-Zeppelin Corporation, which is driven by a Dolphin T-8 cylinder 240 HP engine driving a 125 KW generator 1200 RPM. The folder is devoted to Sterling driven generator sets and illustrates a number of installations.

Trade Literature

Removing Elevator Ropes.—The June-July number of Wire Engineering, official publication of John A. Roebbling's Sons Company, Trenton, N. J., is devoted to the general subject of the removal of elevator ropes from service. It is liberally illustrated with charts and figures.

Koehring Excavator.—The National Equipment Corporation, Milwaukee, Wis., has issued a new catalog on the Koehring No. 401 excavator, including shovel, pull shovel, crane and dragline. Design of the machine is said to mark an important step in the development of this type of excavating equipment.

Agricultural Bulletin.—The Agricultural Bulletin, published by the Agricultural Department of the Atlanta and West Point Railroad Company, the Western Railway of Alabama and the Georgia Railroad, has been issued for the third quarter, the summer of 1931. Interesting and timely articles on agricultural subjects are featured.

Explosives.—The Institute of Makers of Explosives, New York, C. Stewart Comeaux, secretary, has issued a volume, "History of the Explosives Industry in America," emphasizing the essential part explosives play in basic industries. The authors are Arthur Pine Van Gelder and Hugo Schlatter, well known explosives chemists.

"Condo-Vac" Vacuum Pump.—The Chicago Pump Company, Chicago, Ill., manufacturers of sewage pumps, condensation, circulating, bilge, fire, house and vacuum pumps, has issued a bulletin devoted to the "Condo-Vac" vacuum pump, in which details of design and construction are covered. An interesting feature is a cross section view of the pump.

M-K-T Magazine.—The M-K-T Employees' Magazine, published monthly by the Missouri-Kansas-Texas Lines at St. Louis, Mo., has been issued for July. A feature is a story in which M. H. Cahill, chairman of the board and president of the road, tells of the growth of the road's pick-up delivery service. Other timely articles and illustrations add to the interest of the publication.

Tractors for Railroads.—The Caterpillar Tractor Co., Peoria, Ill., has issued advance proofs of a booklet, "Caterpillar Tractors for Railroads," one of a series to inform sellers of "Caterpillar" products regarding their varied fields of usefulness. Details are given of developments in the adaptability of "Caterpillar" tractors and "Caterpillar" road machinery to railroad work. A more complete booklet is to follow soon.

Safety Panelboard.—The switch and panel division, Square D Company, Detroit, Mich., has issued an 8-page bulletin devoted to its new shallow type safety panelboard. Two pages illustrate and describe the panelboards, which are mounted in cabinets 6 inches deep, while the remaining pages are devoted to price lists. The form number of the bulletin is CA505A and is a supplement of Bulletin CA505, which describes the Square D standard safety panel.

WANT SECTION

THE CLASSIFICATIONS IN THIS SECTION ARE:

Machinery and Supplies	Building Materials and Equipment	Bids Asked
Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.	This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.	Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.
<i>Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.</i>		

Machinery and Supplies

Canning Machinery.—Consul of Mexico, Albuquerque, N. M.—Wants prices and data from firms exporting canning machinery, for fruits; especially for small plants.

Canning Machinery.—H. W. Blanks, Columbia, La.—Wants prices and data from manufacturers of canning machinery suitable for small canneries.

Dragline Bucket.—D. J. Murphy Machinery Co., 1801 16th St., N. W., Washington, D. C.—Wants prices and data on ½-yd. dragline bucket.

Dump Cars.—W. M. Smith & Co. (Mchy. Dealer), Box 1709, Birmingham, Ala.—Wants prices and data on 20 6-yd. side dump cars, 3 ft. gauge, steel center sills.

Generator.—Hackley Morrison (Mchy. Dealer), Mutual Bldg., Richmond, Va.—Wants prices and data on 70 to 75-kw. generator, 250 volts, d. c., 220 volts, a. c.

Motor.—H. L. Lane, Altavista, Va.—Wants prices and data on 3-phase, a. c., 1800-r. p. m., 20-h. p., used motor, good working order.

Peanut Shelling Machinery.—Bank of Peterman, P. S. Jackson, Pres., Peterman, Ala.—Wants prices and data from manufacturers of peanut shelling machinery.

Steel Ball Mill.—Johnson & Hoehler, Inc., Second and Railroad Ave., Fernwood, Pa.—Wants prices and data on 6x12 ft. or larger iron lined steel ball mill with center discharge.

Franklin Hardware Co., Fort Myers, Fla.—Wants prices and data from manufacturers on following:

- (1) Power Filters
- (2) Candy Wrapping Machines.

Miscellaneous

Statuary.—Tennessee Caverns Corp., 506 Empire Bldg., Knoxville, Tenn.—Wants prices and data from manufacturers on statuary to stand exposure to continued moisture; to be placed in "Grand Caverns" to illustrate habitations of cave and cliff dweller of prehistoric days.

Henry Fischer Packing Co., 1860 Mellwood Ave., Louisville, Ky., erecting \$30,000 addition to meat packing plant and wants following:

- (1) Cafeteria Equipment
- (2) Kitchen Equipment.

J. N. Brown, Box 391, Charlottesville, Va.—Wants prices and data on following new or used equipment:

- (1) Carbonating Machine
- (2) Cigar Cases
- (3) Newsstand Equipment
- (4) Soda Fountain
- (5) Soda Fountain Supplies
- (6) Tobacco Cases.

Building Material and Equipment

Henry Fischer Packing Co., 1860 Mellwood Ave., Louisville, Ky., erecting \$30,000 addition to meat packing plant and wants following:

- Cork Insulation
- Floor Tile
- Wall Tile.

I. W. Ramsey, Martinsville, Va., wants prices at once on following for residence:

- Dumb Waiters
- Flooring—hardwood, tile
- Limestone
- Metal Doors
- Plaster Board
- Roofing—asbestos shingle, slate, tile
- Tile—gypsum
- Ventilators
- Brass and Bronze Work.

R. M. Everett, Contr., Tecumseh, Okla., wants prices on following for \$50,000 hospital, Anadarko, Okla.:

- Flooring—terrazzo, tile, composition.
- Lee Wade, Contr., 608 N. 13th St., Duncan, Okla., wants prices on following for \$18,000 church, Sayre, Okla.:
- Roof—asbestos shingle.

R. P. Farnsworth & Co., Inc., 926 Maritime Bldg., New Orleans, La., estimating on Fine Arts Bldg. and field house and recreation center for Louisiana State University and Agricultural and Mechanical College, Baton Rouge, La., on which bids are to be opened July 30, and wants following sub-bids in New Orleans office by July 27 or office Geo. Farnsworth & Good, Heidelberg Hotel, Baton Rouge, by July 29:

- Cast Stone
- Flooring—terrazzo, tile
- Marble
- Metal Doors
- Roofing—builtup
- Steel Sash and Trim
- Tile—gypsum, hollow.

Building Materials.—Building Specialty Service, Henry Stephen Harvey, 1615 17th St., Birmingham, Ala.—Wants literature, data and prices on all building materials and accessories.

J. V. & R. T. Burkes, Inc., 1112 American Bank Bldg., New Orleans, La., estimating on Fine Arts Bldg. and field house and recreation center for Louisiana State University and Agricultural and Mechanical College, Baton Rouge, La., on which bids are to be opened July 30, and wants quotations on all materials and sub-contracts on or before July 28.

Bids Asked

Alleys.—Baltimore, Md. See Construction News—Roads, Streets and Paving.

Aerial Photographing.—U. S. Engr. Office, Huntington, W. Va.—Bids Aug. 13 for making aerial photographs of portions of Ohio River Valley.

Automobile.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids July 27 for 1-passenger automobile, sedan-limousine, f. o. b. factory.

Automobiles.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids July 29 for automobiles, delivery Philadelphia, Pa.

Bank Protection.—U. S. Engr. Office, McCall Bldg., Memphis, Tenn.—Bids Aug. 4 for 5000 lin. ft. bank protection, Mississippi River in vicinity of Island 18.

Boiler Repairs.—U. S. Engr. Office, Huntington, W. Va.—Bids July 28 for repair of boiler, U. S. Lock 25.

Boring Mill.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Aug. 4 for motor driven, horizontal boring mill.

Bridges.—State of Louisiana—Bids for 6 bridges. See Construction News—Bridges, Culverts and Viaducts.

Bridges.—State of Maryland—Bids for 3 bridge projects. See Construction News—Bridges, Culverts and Viaducts.

Bridges.—State of Missouri—Bids for 26 bridges. See Construction News—Roads, Streets and Paving.

Bridge.—Snow Hill, Md. See Construction News—Bridges, Culverts and Viaducts.

Bridge.—Greenville, Miss. See Construction News—Roads, Streets and Paving.

Bridge.—Oxford, Miss. See Construction News—Bridges, Culverts and Viaducts.

Bridges.—State of West Virginia—Bids for 8 bridges. See Construction News—Roads, Streets and Paving.

Boiler Plant, etc.—War Dept., Office of M. A. McFadden, Capt., Q. M. C., Constructing Quartermaster, Montgomery, Ala.—Bids Aug. 11 for furnishing and installing boiler plants, outside distribution system and steam conduit drains at Maxwell Field; information on application.

Cement (Portland).—Office of Corps Area Engr., Headquarters Third Corps Area, 311 St. Paul Pl., Baltimore, Md.—Bids July 27 for 475 bbl. Portland cement, in paper bags (94 lb. per bag), delivery Acting Harbor Defense Engr., f. o. b. Fort Monroe, Va.

Control Valve Machinery.—U. S. Engr. Office, Huntington, W. Va.—Bids July 31 for control valve machinery, Marmet and London Locks, Kanawha River.

Destroyers.—Secretary of the Navy, Washington, D. C.—Bids Sept. 16 for constructing 11 destroyers, No. 348 to 358, inclusive; destroyers of the 1500 standard treaty tons displacement, and of a designed speed of 35 knots.

Dredging.—U. S. Engr. Office, Galveston, Tex.—Bids Aug. 10 for dredging 377,000 cu. yd., Sabine-Neches Waterway, Tex. See Construction News—Miscellaneous Construction.

Electrical Supplies.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids July 29 for electrical supplies, delivery Quantico, Va.

Elevators.—Mississippi State Hospital Removal, Improvement and Landsale Comsn., Jackson, Miss.—Bids Aug. 8 for elevators for negro group at state insane hospital, Whitefield, Miss.; N. W. Overstreet, Archt., Standard Life Bldg., Jackson.

Fire Alarm System.—Surg. Archt., Treasury Dept., Washington, D. C.—Bids July 28 for fire alarm system at U. S. post office, Baltimore, Md.

Grinder Machine.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids July 28 for motor driven, internal grinder machine.

Horizontal Capstans.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids July 27 for horizontal capstans, delivery Philadelphia, Pa.

Levee.—U. S. Engr. Office, P. O. Box 667, Vicksburg, Miss.—Bids for July 29 50,000 cu. yd. earthwork, south bank Arkansas River, Ark. See Construction News—Miscellaneous Construction.

Levee.—U. S. Engr. Office, 1006 McCall Bldg., Memphis, Tenn.—Bids July 31 for about 7800 cu. yd. earthwork, Upper Yazoo Levee Dist.

Lumber.—Headquarters Third Corps Area, Office of Corps Area Engr., 311 St. Paul Pl., Baltimore, Md.—Bids July 28 for common yellow pine, quarter round and half round lumber.

Miscellaneous.—Panama Canal, Office of Gen. Pur. Officer, Washington, D. C.—Bids Aug. 4 for following, Ch. 2671:

Seismometers and recorders, corrugated metal roofing, roofing straps, T-conductor rails, wire rope, metal beds, mattresses, bedside tables, toilet seats, floor drains, pipe, pipe fittings, unions, metal valves, cocks, screws, barrel bolts, rim locks, etc

Monument.—Constructing Quartermaster, Fort Bragg, N. C.—Bids Aug. 17 for constructing monument at Cowpens Battlefield, Ezell, S. C.; \$12,500 appropriation.

Oil, Paint and Brushes.—Headquarters Third Corps Area, Office of Corps Area Engr., 311 St. Paul Pl., Baltimore, Md.—Bids July 28 for 25 gal. raw linseed oil, 50 gal. outside white paint, 10 gal. outside green paint, 24 4-in. flat paint brushes, 12 3-in. and 12 1-in.

Piling Dikes.—U. S. Engr. Office, 428 Customhouse, St. Louis, Mo.—Bids July 29 for piling dikes at several locations. See Construction News—Miscellaneous Construction.

Pile Dikes.—U. S. Engr. Office, McCall Bldg., Memphis, Tenn.—Bids July 29 for 15,800 lin. ft. permeable pile dikes in Mississippi River, Mo., Ark., Tenn. See Construction News—Miscellaneous Construction.

Pile Dikes.—U. S. Engr. Office, McCall Bldg., Memphis, Tenn.—Bids July 30 for 14,300 lin. ft. permeable pile dikes in Mississippi River, Tenn. and Miss.

Pumps.—Bd. of Awards, Baltimore, Md.—Bids July 29 for furnishing and delivering unwatering pump for Montebello-Druid Conduit; information at office of E. G. Rost, Water Engr.

Refrigerating Equipment.—Construction Div., Veterans Bureau, Washington, D. C.—Bids Aug. 4 for installing and finishing complete at U. S. veterans hospital, Memphis, Tenn., refrigerating equipment in building No. 1.

Roads.—State of Maryland—Bids for 5 roads. See Construction News—Roads, Streets and Paving.

Roads.—State of Missouri—Bids for 49 roads. See Construction News—Roads, Streets and Paving.

Road.—Clayton, St. Louis, Mo. See Construction News—Roads, Streets and Paving.

Road.—Georgia. See Construction News—Roads, Streets and Paving.

Roads.—State of West Virginia—Bids for 8 roads. See Construction News—Roads, Streets and Paving.

Sand and Gravel.—Office of Corps Area Engr., Headquarters Third Corps Area, 311 St. Paul Pl., Baltimore, Md.—Bids July 27 for 430 tons washed gravel or broken stone and 215 tons sand.

School Supplies and Equipment.—Bd. of Awards, Office of City Register, City Hall, Baltimore, Md.—Bids July 29 for furnishing miscellaneous supplies and other equipment, office practice supplies, floor oil and miscellaneous supplies for mechanical drawing classes for various schools for Dept. of Education; Joshua R. Jolly, Act. Sec., Bd. of School Commrs.

Sewer Construction.—City of Cumberland, Md., Ralph L. Rizer, City Engr.—Bids July 27 for sewers, Projects A, B, C, D, E, F, G; proposal required separately on each and awards will be made separately; information on application at office of City Engr.

Sidewalk.—Laurel, Md. See Construction News—Roads, Streets and Paving.

Slab Zinc.—Supvg. Archt., Treasury Dept., Washington, D. C.—Bids July 28 for 18,000 lb. slab zinc for Norfolk, Va.

Steam Boiler.—U. S. Engr. Office, Huntington, W. Va.—Bids July 27 for steam boiler for locomotive crane, Marietta repair station.

Steam Conduit Drains.—See Boiler Plant, etc.

Streets.—Towson, Md. See Construction News—Roads, Streets and Paving.

Street Light Globes.—City, Bd. of Awards Office of City Register, City Hall, Baltimore, Md.—Bids July 29 for furnishing street light globes for use in park system; Winfield F. Courts, Park Engr.

Tools, etc.—Headquarters Third Corps Office of Corps Area Engr., 311 St. Paul Pl., Baltimore, Md.—Bids July 29 for furnishing and delivering carpenters' adzes, single bit axes, ring ship augers, flat, round and taper files, axe handles (single bit), maul handles, Stillson wrenches, tongs (pipe, chain, drop-forced), white waste cotton, garden hose, hose nozzle, standard steel pipe, galv., threaded and coupled, Manila rope.

Turret Lathes.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids July 28 for motor driven, universal turret lathes.

Water Pressure System.—Courthouse and Jail Committee of Jefferson Parish Police Jury, Gretna, La.—Bids Aug. 10 for installation of water pressure system and repairs to plumbing in parish jail; Wm. Hepting, Sec.

Incinerator Interests Consolidate

A consolidation of interests of the Decarie Incinerator Corporation, New York City, with those of a former and recent personnel of the Nye Odorless Incinerator Corporation, Albany, Ga., as announced by the Decarie Company, will result in one of the largest incinerator organizations in the country. The new organization is known as the D-N Corporation and its officers include the following: Jules Breuchaud, chairman of the board; Dermot Shemwell, formerly president of the Nye Odorless Incinerator Corporation, president; Francis L. Pruyn and W. L. Crawford, the latter formerly sales manager of the Nye organization, vice-presidents; William C. Key, formerly secretary and treasurer of the Nye organization, treasurer, and Jules R. Breuchaud, secretary. Directors of the corporation include the officers and J. B. Goldsborough, Oscar E. Dooley and William G. Eager. The D-N Corporation, both a holding and operating company, will own all stock of the Decarie Incinerator Corporation and a majority of the common stock of the Nye Odorless Incinerator Corporation, together with the control of certain sewage disposal equipment. Its executive offices will be at Winston-Salem, N. C., with branch offices in New York, Chicago, Albany, Ga., Memphis, Tenn., San Antonio, Tex. and Los Angeles Cal. Sales representatives will be located throughout the United States and Canada.

INDUSTRIAL NEWS

New Reeves Pulley Office

The Reeves Pulley Company, Columbus, Ind., has established a new branch office at 912 Johnston Building, Charlotte, N. C., for the purpose of giving Southern customers a more complete engineering service on transmission problems. D. M. McSpadden is in charge of the office.

Wind Electric Device

Charles E. Carroll of Newport, Ark., has been granted a patent on a wind electric device, it is said, that "makes it as practical to develop electricity and store it in batteries for use on the farm or other places as it is to pump water by wind power and store it in tanks." Simplicity of construction is emphasized as a feature of the device, while the cost of installation is claimed not to be great.

U. S. Hame Company Expands

Assets of the Lawson Manufacturing Company, Cleveland, Ohio, and of the Warner Hammer Company, Cromwell, Conn., have been purchased by the U. S. Hame Company, Buffalo, N. Y., according to an announcement by the purchasers. The Lawson company manufactured the Lawson pipe wrench, which is said to be particularly adapted to difficult work because of the angle design of the handle. Engineers of the U. S. Hame Company are said to have added refinements in design, construction and finish, specifying drop forgings of special alloy steel. The wrench will be marketed under the name of USHCO Lawson wrench. Warner hammers and chisels will be branded as USHCO Warner tools. Sales activities for these lines will be under the direction of T. W. Porter, vice president in charge of sales. Robert H. Blockall will continue in charge of the railroad equipment division and the general trade will be reached by the U. S. Hame Company's sales force, assisted by manufacturers' agents, who will be appointed to cover well defined territories.

Rejoins Westinghouse Company

While retaining his university connections, Professor S. W. Dudley, Strathcona Professor of Mechanical Engineering and Chairman of the Department of Mechanical Engineering in Yale University, has rejoined the engineering organization of the Westinghouse Air Brake Company, Wilmerding, Pa., in an advisory capacity, with the title of Assistant to the Vice President. Professor Dudley is a member of the Publication Committee of the American Society of Mechanical Engineers.

Mehren Heads Cement Association

The appointment of Edward J. Mehren, Chicago, Ill., as president of the Portland Cement Association, with headquarters at 33 Grand avenue, Chicago, has been announced by Frank H. Smith, chairman of the board of directors of the Association, and banking commissioner of New Jersey. Mr. Mehren was editor for ten years of the Engineering Record, later the Engineering News Record, and afterward became vice-president and editorial director of the McGraw-Hill Publishing Company. He will devote his entire time to the work and will assume his duties September 1.

Tall Building Economy.—This is the title of a bulletin issued by the Concrete Reinforcing Steel Institute, Chicago, under the direction of its publicity committee. The publication presents facts relating to economical use of reinforced concrete for construction of buildings, particularly tall structures, and illustrates a number of buildings in which this material was used, such as the Jackson Tower office building, Jackson, Miss.; Lennox Hotel, St. Louis; Petroleum Building, Oklahoma City; Medical Arts Building, Dallas, and the Milam Building, San Antonio, all Southern structures. Other outstanding structures in other sections of the country also are illustrated.

Hercules Experiment Station

The construction of a new experiment station at Hercules, about 5 miles west of Wilmington, Del., gives the Hercules Powder Company, Wilmington, elaborate research facilities close to its main office. On a plot of more than 300 acres, the new station occupies a hill-top site and has been so designed that additional buildings may be erected later. Its central feature is a main laboratory building, three stories and of wide dimensions, housing the physical and analytical laboratories, offices, library, service departments, etc. Ten smaller buildings house experimental semi-plant units, machine shops, isolated chambers and storage power units. The new laboratories were designed and constructed by the technical department of the company, George E. Ramer, chief engineer. A. B. Stanhope, Wilmington, was the consulting architect. The experiment station will be used for testing Hercules products and for developing new products and uses. The company has announced that a shipload of 7600 bales of cottonseed-hull shavings, the first shipment to the Hercules purification plant at Hopewell, Va., from the Gulf Coast region, has been unloaded. From this cotton by-product it manufactures chemical cotton used in the production of nitrocellulose, cellulose acetate rayon and fine papers.

New Square D Texas Factory

The Square D Company of Texas, subsidiary of the Square D Company, Detroit, Mich., manufacturers of electrical safety devices and equipment, recently opened a new factory at 3111 Polk avenue, Houston, Tex., for electrical equipment service. This company succeeds the Diamond Electrical Manufacturing Company of Texas, which became affiliated with the Square D Company last year. Provision was then made that the Square D Company of Texas would handle sales of both Diamond E and Square D products in Texas, Louisiana, Mississippi, Arkansas, Oklahoma and part of Tennessee. It operates branches in Little Rock, Dallas and Houston. E. S. Conrad is vice president and general manager.

RAIL IMPROVEMENT PROGRAM ADVANCED

Pennsylvania Railroad Awards Two Contracts and Will Soon Award Other Baltimore Work

The award of two contracts by the Pennsylvania Railroad in connection with its proposed \$22,500,000 improvement program in Baltimore marks the beginning of construction work on this project, which is tied in with plans of the railroad to electrify its lines between New York and Washington at a cost of \$175,000,000. Contract was awarded to the Arundel Corporation, Baltimore, to widen the railroad's Broadway bridge to accommodate increased trackage, while another contract was awarded to the Empire Construction Co., Baltimore, to raise the tracks between Franklin street and Gwynn's Falls to meet the level of the grade crossing schedule. Under an agreement with the city, all the railroad's grade crossings in Baltimore are to be eliminated, the city sharing the cost equally with the railroad. It is estimated that the entire program of grade-crossing elimination will involve a cost of \$1,000,000.

The railroad plans to begin the construction late in August of a 3400-foot tunnel from Bond street to Greenmount avenue and complete it by the end of 1932. The city board of estimates has been asked to invite bids on a bridge to be built over Loney's Lane, while crossing work at Lafayette avenue, Warwick avenue and Garrison lane will soon be put out for bids individually. Other crossing work will be done at Biddle and Washington streets, Preston and Wolfe streets, and Gay street, on which bids will soon be invited also. Contracts will be awarded by the city for bridges at Loney's lane, Lafayette avenue, Warwick avenue and Garrison lane. At Loney's lane and Lafayette avenue, the highways will pass over the railroad tracks, and at Biddle and Washington streets, Preston and Wolfe streets, Gay street, Broadway, Warwick avenue and Garrison lane, the railroad will go over the streets.

In addition to the Union tunnel from Bond street to Greenmount avenue, which will carry two main tracks with full overhead clearance to accommodate electrical apparatus on cars and locomotives, and the elimination of grade crossings, the entire Baltimore program of the railroad calls for the construction of a 4-track tunnel west of Pennsylvania Station, the reconstruction of Calvert Station and erection of two new warehouses adjacent to it, and the complete electrification of the company's lines in the city. The electrification program

alone is estimated to cost from \$7,500,000 to \$12,000,000. W. B. Wood is the engineer in charge of the construction program for the railroad.

Bids on Drainage Work

Wichita Falls, Tex.—Bids will be opened August 3 by the Board of Drainage Commissioners of Wichita County Drainage District No. 2 and the board of directors of Wichita County Improvement District No. 1, at the office of the latter, for the construction of drainage improvements in district No. 2. The work will involve approximately 192,447 cubic yards of earth, framing of about 116,279 board feet of lumber, placing flumes, culverts and protection structures, etc. Plans and specifications may be obtained from G. A. Remington, general manager of Wichita County Water Improvement District No. 1.

Solid Carbonic Corporation

Houston, Tex.—The Solid Carbonic Corporation, O. E. House, president, and W. D. Ward, secretary-treasurer, was recently incorporated under the laws of Louisiana and qualified in Texas. It is now the Southwestern Dry Ice licensee, holding a manufacturer's right in Louisiana and Texas and distribution rights from plants in these states to Alabama, Mississippi, Arkansas, Oklahoma, New Mexico, Arizona and the Republic of Mexico. It will furnish engineering service to operating companies, also all rights of licenses and franchises that it holds from the Dry Ice Corporation of America.

The new corporation will take over the assets of the Dry Cold Corporation of Texas and Louisiana, which has been operating plants in Fort Worth and New Orleans, and plans to sell these plants to local operating corporations with local personnels. The New Orleans plant has a capacity of 90,000 pounds weekly, while the weekly capacity of the Fort Worth plant was recently increased from 30,000 to 90,000 pounds. The Houston plant will have a capacity of 20 tons daily and is designed primarily to serve the Gulf Coast fisheries.

\$1,507,000 Post Office Contract

Louisville, Ky.—General contract to erect the new post office, court house and custom house building here has been awarded by the Treasury Department, Washington, Jas. A. Wetmore, Acting Supervising Architect, to the Pike & Cook Co., Inc., Minneapolis, Minn., at \$1,507,700. This contract is exclusive of elevators and dumbwaiters.

\$1,500,000 FOR UNDERPASSES

Santa Fe Asks Bids for Work in Connection With \$5,000,000 Track Elevation

Oklahoma City, Okla.—The Atchison, Topeka & Santa Fe Railway, H. W. Wagner, chief engineer, Topeka, Kans., opens bids July 27 in the Topeka office for the construction of 11 underpasses and retaining walls, in connection with a \$5,000,000 track elevation program here. The underpasses and walls, estimated to cost \$1,500,000, constitute the second phase of the program, as a contract for fills was recently awarded to Leo Sanders, Oklahoma City, and work is now under way. Plans call for concrete retaining walls along each side of the tracks, at an average of 16 feet in height, to hold dirt for the elevation. Subways will be built at Sixth, Fifth, Fourth, Third, Second, First and Main streets; at Grand, Reno, Chickasaw and Choctaw avenues, and for the Rock Island and Frisco tracks. Underpasses at Second, Third, Fourth, Fifth and Sixth streets will be 80 feet wide, while the First street subway will have a 30-foot opening. At main street there will be two 33-foot roadways and two 10-foot sidewalks, and at Grand avenue there will be two 30-foot roadways and two 10-foot sidewalks. An underpass at Reno avenue will afford two 22-foot roadways and 8-foot sidewalks, while the roadways will be 20 feet each at Chickasaw avenue, with two 4-foot walks, and at Choctaw avenue there will be a 40-foot roadway and two 4-foot walks. The completion of the contract will finish the elevation work, with the exception of the Santa Fe depot work and some depression and drainage work to be done after the subways are completed. H. L. Hunter is the resident engineer.

Longview's Business Expands

Longview, Tex.—A survey of business expansion of Longview since January 1 indicates there are now 14 basic industries operating here, embracing at least 408 firms and employing more than 2400 people. The oil industry is the bulwark of the Longview payroll, as more than 250 firms are directly traceable to that industry. Remaining basic industries are designated as dairies, electrical contractors, garages, hotels, hospitals, wholesale meat distributors, machine shops, basket manufacturers, bottlers, cleaners, building contractors, cotton oil mills, mattress manufacturers, canning company and lumber yards. Including employes in these industries, it is estimated that the total number of employed in Longview will reach 8000.

A New Sales Code

Below-cost price-cutting and the cut-throat competition prevailing so widely today continues to be a focal point around which disorganized business revolves in a mad whirl to maintain sales volume regardless of profit. Such methods yet further depress prices and business. On this subject Charles F. Abbott, executive director of the American Institute of Steel Construction, Inc., speaking on "Profitable Salesmanship" before the 17th annual convention of the National Council of Traveling Salesmen's Associations, of which he is vice-president, said in part:

"There is only one way to make money in business. That way is to sell the goods produced at a profit. The fact that there are many in every line who are making a profit proves that knowledge and self restraint are not without their rewards. It takes courage to look a large order squarely in the face and say 'No,' if it is not in accord with established terms and prices. Nevertheless, there are salesmen in highly competitive industries who are displaying that courage year in and year out. True they may not have the big volume, but they have not been drowned in red ink.

"There is no credit for anyone when an order is taken at a cut price. The buyer may gain a temporary benefit and the seller has the order, but in the end both buyer and seller lose far more than they gain. The buyer offers encouragement to price demoralization and he can never tell when his price is right on his future purchases. The seller reduces his profit and in the end he may find himself giving away a part of his capital assets. * * *

"The constant lowering of prices is an endless process; it lowers us into a hole, the bottom of which has never been reached. The price cutter may be low today, but his competitor will see to it that he is not low enough tomorrow. In this downward trend of prices there comes a time when the selling prices are below the cost of production, profits are dissipated and business is being transacted at a loss. In this wild scramble for volume, industry must learn that distress lurks just ahead and the only remedy lies in sales at cost plus a profit. * * *

"Advertising and selling is becoming, and will increasingly become, the paramount issue of the day. The new situation, however, will demand more than larger appropriations for advertising and an intensification of selling effort—necessary as these will be. The transition we are witnessing is bringing with it a demand for stabilized profits which in turn calls for a radical readjustment of our merchandising policies. * * *

"There was never a time when salesmen have had such an important responsibility placed upon them. Recovery in business will depend to a large extent on the salesman's ability to sell. It will

be necessary for him to work with smaller accounts, work longer hours, and harder than ever before.

"Salesmen must fight the price-cutting evil and insist upon sales at a profit. There is too much business in this country today on poor quality. The principal thing is to manufacture a high grade article, trademark it, advertise it, and then sell it on its merits. Here is the new Selling Code for 1932:

"Replace volume sales with honest, intelligent and aggressive selling at a profit.

"One price to all without any concession or discrimination.

"Abandon all misrepresentation.

"Abolish all secret rebates.

"No sales at cost or below cost.

"Eliminate all commercial bribery.

"Maintain standards as established by the industry, avoiding any substitution or impairment of quality or workmanship.

"Cooperative attitude toward competitors.

"Adopt a sales policy that is fair to all, then vigorously carry it out.

"Refuse to indulge in price cutting because of some rumor that a competitor had submitted a lower price.

"Insist that every order include a reasonable profit.

"Support your trade organization to the limit of your ability."

SIX \$5,000,000 SHIPS TO BE LAUNCHED THIS YEAR

Newport News Company Building Three

Newport News, Va.—Tentative plans have been made by the Newport News Shipbuilding and Dry Dock Company for a double launching on August 15, when two new 11,000-ton ships under construction for the United Fruit Co., are scheduled to leave the ways. The ships are 447 feet long, with a beam of 60 feet and a depth of 34 feet 8 inches. They will have a speed of 18 knots and will be equipped with refrigeration for perishable freight. Accommodations will be provided for 120 passengers. The cost of the ships will be about \$5,000,000 each.

Before the end of 1931, four other 11,000 ton liners will be launched for the United Fruit Co. One of these will be launched here on November 30, while two will be launched October 25 and November 14, respectively, from the yard at Quincy, Mass., of the Bethlehem Shipbuilding Corporation, Ltd., and another on December 12 from the same yard.

Steel for \$5,000,000 Capitol

Baton Rouge, La.—The Ingalls Iron Works Company, Birmingham, Ala., fabricated 3200 tons of steel for the new \$5,000,000 State capitol under construction here. This structure which will be one of the outstanding state buildings in the South, will cover an area of 340 by 150 feet for the first four floors, above which will be two smaller floors, and above these will be a tower 70 by 70 feet, of more than 20 floors. Weiss, Dreyfous & Seiferth, Inc., New Orleans, are the architects and the George A. Fuller Company, New York and Washington, general contractors.

Lithophone and Dry Color Merger

The Krebs Pigment & Color Corporation is being organized jointly by the E. I. du Pont de Nemours & Co., Wilmington, Del., and its affiliated company, the Grasselli Chemical Co., Inc., and the Commercial Solvents Corporation, New York, to consolidate the lithophone and dry color business of the Krebs Pigment & Chemical Co., Inc., Newport, Del., and the pigment and dry color division of the Grasselli Chemical Co., Inc., with the titanium pigment business of the Commercial Pigments Corporation, a subsidiary of the Commercial Solvents Corporation. Organization of the new company is expected to be completed about August 1, with Carl H. Rupprecht manager of the pigment and dry color division of the Grasselli Company, as president, and Zack P. Phelps, vice-president of the Krebs Pigment & Chemical Company, Inc., serving in the same capacity in the new company. The main office will be at Newark, N. J., and branch sales offices will be continued in Cleveland, Chicago and other cities, while warehouse stocks will be carried in 26 cities.

The company will operate plants at Newport, Del., Newark, N. J., and Baltimore, and will continue the complete range of products and brands previously manufactured by the individual companies.

\$250,000 Mill Buildings

High Point, N. C.—The Adams-Millis Corporation awarded contract to W. M. Lotz, Philadelphia, Pa., for construction of two new mill buildings here and work will begin at once. Plans by Louis Mulhouser, Philadelphia, call for a 5-story building, 55 by 100 feet, and a 1-story structure 100 by 150 feet. The cost will be about \$250,000.

Develop Technique

TECHNIQUE is that skilled and refined procedure which harmonizes mind with method and motion. Business that has it, individuals that have it—accomplish more, and do better work with less effort, less time and less waste.

Just as much depends on technique in business as in art or sport. Not long ago Business shied at using a term, or a practice, which had anything to do with Art, or even Sport. Not so now. Modern Accountancy has shown not only that business management *is an art*, but that its greater success comes with the application of exactly the same factors which produce great Art, and make Sport so universal and so interesting.

In the control of your business, in the method or system of your management, in the endless operations of all material functions—*develop technique*.

Ernst & Ernst have endeavored to set forth much of the *technique* of management in "Budget Control," a 40-page booklet which will be mailed by nearest office on request.

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FINANCIAL NEWS

Bond Issues Proposed

Ala., Gadsden—City votes Aug. 4 on \$175,000 funding bonds.

Ala., Gadsden—City Comsn. called election for Aug. 4 on proposal to issue \$175,000 bonds to convert floating debt into permanent debt.

Ark., Alma—Alma Consolidated School Dist., reported, sold \$47,000, 6% school bonds to National Securities Co., Little Rock.

Ga., Atlanta—Robert R. Otis, Chmn., Borough Planning Comsn., proposed \$1,000,000 bond issue to provide fund for pushing planning projects.

Ga., Augusta—Richmond County, reported, soon sell \$1,000,000 school building bonds.

Ga., Hogansville—City, H. B. Darden, Chmn., Bd. of Education, probably call \$25,000 school bond election soon.

Ga., McDonough—Henry County Comms. of Roads and Revenues, J. O. Tarpley, Clk., open bids Aug. 1 for \$150,000, 5%, \$1000 denom. road improvement bonds.

Ky., Louisville—City, Comms. of the Sinking Fund, denies report will issue \$45,000 indebtedness bonds. 7-16

Ky., Middlesboro—Mayor and City Comms. referred petition for issue of \$250,000 power plant bonds to Citizens' Advisory Committee.

La., Gretna—City, Chas. F. Gelbke, Mayor, votes Aug. 25 on \$200,000 street paving bonds.

La., Lake Charles—School Dist. No. 22, Calcasieu Parish, H. A. Norton, Sec., voted \$75,000 building and equipment bonds.

La., New Iberia—New Iberia Parish School Bd., J. E. Verret, Pres., opens bids Aug. 14 for \$40,000, 4% Delcambre School Dist. No. 2 bonds.

Miss., Biloxi—City Comsn., J. J. Kennedy, Mayor, called election for Aug. 7 on \$85,000 bonds for purchasing grounds for American War Veterans' Home.

Mo., Fulton—City recently voted \$15,000 street improvement bonds.

N. C., Boone—City, H. B. Perry, Clk., opens bids July 27 for \$28,000, \$1000 denom., 6% water system bonds.

N. C., Charlotte—City, School Comms., Chas. Blackburn, Treas., advises sale of \$135,000 bonds probably will not be made for about 60 days; to be sold through Local Government Comsn., Chas. M. Johnson, Sec., Raleigh. 7-16

N. C., Greenville—City voted \$100,000 gas plant purchase bonds.

N. C., Kinston—Lenoir County issue \$200,000, not exceeding 5½% current obligation retirement bonds.

S. C., Aiken—City Council call election on \$150,000 power distributing system bonds.

S. C., Spartanburg—City, Ben Hill Brown, Mayor, voted \$500,000 funding bonds.

Tenn., Camden—Benton County authorized by Legislature to issue \$50,000, not to exceed 5%, \$1000 denom. indebtedness bonds.

Tenn., Chattanooga—Hamilton County recently sold \$500,000 notes to Hamilton County National Bank, at 3%.

Tenn., Chattanooga—Legislature failed to pass bill authorizing sale of \$200,000 bonds for sewers in Brainerd. 6-18

Tenn., Cookeville—City has \$50,000 school bonds validated by Legislature.

Tenn., Cookeville—Putnam County has \$100,000 school bonds validated by Legislature.

Tenn., Dresden—City authorized by Legislature to issue \$40,000, not exceeding 6% street improvement bonds.

Tenn., Dyer—City, J. M. Evins, Chmn., Bond Sale Committee, opens bids July 28 for \$40,000, not to exceed 5½% coupon funding and refunding bonds.

Tenn., Elizabethton—Carter County, W. C. O'Brien, Chmn., Bd. of Comms., reported, opens bids Aug. 12 for \$220,000, not to exceed 6% bonds; \$125,000 road; \$70,000 funding, general account, and \$25,000, funding, school.

Tenn., Fayetteville—City, Mayor and Bd. of Aldermen, R. L. Lindsay, Clk., opens bids Aug. 4 for \$40,000, 5% bonds for refunding and floating indebtedness. 7-16

Tenn., Fayetteville—Lincoln County Court, C. F. Higgins, Clk., opens bids Oct. 5 for \$50,000 to \$75,000 revenue anticipation notes.

Tenn., Fayetteville—Lincoln County author-

ized by Legislature to increase note issue, \$50,000 to \$100,000, and make notes payable in 1 year instead of 6 months.

Tenn., Kingsport—City authorized by Legislature to issue \$40,000, not to exceed 6% street improvement bonds.

Tenn., Knoxville—Knox County Court authorized \$200,000, 4½% bonds to reimburse County Highway Comsn. for bridge warrants.

Tenn., Laurel—Myrick School Dist. of Jones County voted \$10,000 school bonds.

Tenn., Maryville—City, W. H. Willard, City Judge, votes Aug. 3 on \$20,000 sewer bonds.

Tenn., Nashville—Senate passed bill authorizing \$10,000 Davidson County road and bridge bonds.

Tenn., Watertown—City authorized by Legislature to issue \$25,000, not exceeding 6% light and power bonds.

Tex., Brackettville—Kinney County voted \$150,000 road bonds.

Tex., Colorado—Colorado National Bank, capital \$100,000, chartered; Joe H. Smoot, Pres.; G. B. Slaton, Cashier.

Tex., De Leon—City, J. H. Tate, Mayor Pro-Tem, recently voted gas plant bonds.

Tex., Edna—Jackson County, reported, voted \$1,150,000 road construction bonds.

Tex., Palestine—City Council, and C. L. Kolstad, Pres., School Bd., set Aug. 17 as tentative date of election on \$20,000 school improvement bonds.

Tex., Runge—Yates Creek School Dist., R. W. Gauss, Jr., Trustee, voted \$10,000 bonds.

Tex., San Antonio—City Comsn. voted \$1,100,000 funding bonds to replace notes aggregating that amount against general funds.

Tex., Ysleta—City voted \$60,000 improvement bonds.

Va., Accomac—Accomac County School District recently voted \$70,000 school bonds: \$60,000 Lee School Dist. bonds and \$10,000 Tangier School Dist.; defeated \$75,000 Pongoteague School bonds. 6-4

Bond Issues Sold

Ark., Camden—City sold \$26,000 \$500 and \$1000 denom. paving bonds to Union Trust Co., Little Rock, as 4½, at 87.

Miss., Clarksdale—Coahoma County, reported, recently sold \$58,000, 5½% refunding road and bridge bonds to Union & Planters Bank, Memphis, Tenn.

Miss., Indianola—Sunflower County recently sold \$30,000, 5% refunding bonds to First Securities Corp., Memphis, Tenn., at 101.00.

Mo., Clayton, St. Louis—St. Louis County Court, Walter E. Miller, Clk., sold \$1,492,930 4% road bonds to syndicate composed of Continental Illinois Co., Harris Trust & Savings Bank, First Union Trust & Savings Bank, all Chicago, Ill.; First National Co. of St. Louis, Mississippi Valley Co., and Boatmen's National Co., all St. Louis, at \$1,492,950. 7-9

Md., Rockville—Montgomery County, Berry E. Clark, Clk., sold \$1,055,000, \$1000 denom., 4½% general construction bonds to syndicate composed of Mercantile Trust Co., Union Trust Co. of Maryland and Baltimore Trust Co., all Baltimore, and Chase, Harris, Forbes Corp., New York, at 98.75. 7-9

Md., Smithsburg—City, Burgess and Comms., Clarence E. Wolfe, Asst. Burgess and Clk., sold \$35,000, 4½%, \$1000 denom. bonds to Nicodemus National Bank, Hagerstown, at par and accrued interest.

Miss., Greenville—Bd. of Mississippi Levee Comms., Ernest Kellner, Sec., sold \$200,000, 4½%, \$500 denom. repair and maintenance bonds to Union Planters Bank & Trust Co., Memphis, Tenn., at par. 7-2

Miss., Meridian—Lauderdale County Suprvs. sold \$300,000, 5½% road bonds to Union & Planters Bank, Memphis, Tenn., for \$1025 premium.

Miss., Jackson—State Bond Comsn., H. C. Yawn, Treas., sold \$5,000,000 bonds for redemption of outstanding bank guaranty certificates to syndicate composed of Saunders & Thomas, Inc., I. T. Tigrett, and First National Bank and Commerce Securities Co., all Memphis, Tenn.; C. W. McNear & Co., Chicago, Ill.; Stranahan-Harris & Otis, Toledo, Ohio, and Whitney National Bank, New Orleans, La., at par and accrued interest of 4½%. 7-2

Mo., Cassville—City sold \$12,500 water supply bonds to Alexander, McArthur & Co., Kansas City. 7-9

N. C., Concord—City, B. E. Harris, Clk., sold \$43,500 bonds, through Local Government Comsn., Raleigh, to Concord National Bank, at 5%, with \$37 premium.

N. C., Monroe—Monroe Graded School Dist. sold \$30,000 coupon school bonds to Morris, Mather & Co., Chicago, at 100.75. 7-9

N. C., Raleigh—State, O. Max Gardner, Governor, reported, recently sold \$2,230,000 debt funding notes to First Natl. Bank of New York at 2½%.

Okla., Poteau—R. C. Edwards, Oklahoma City, purchased \$24,000 school bonds.

N. C., Monroe—Monroe Graded School Dist. sold \$30,000 bonds, through Local Government Comsn., Raleigh, to Morris, Mather Co., Chicago, Ill., at 5¼% and \$225 premium. 7-9

N. C., Morganton—Burke County sold \$40,000 notes, through Local Government Comsn., Raleigh, to American Trust Co., Charlotte, at 6% with \$25 premium.

N. C., Shelby—Shelby School Dist. sold \$26,000 bonds, through Local Government Comsn., Raleigh, to Weil, Roth & Irvin, Cincinnati, Ohio, at 5¼% and \$58 premium. 7-9

N. C., Shiloh—Shiloh School Dist. sold \$25,000 bonds, through Local Government Comsn., Raleigh, to Prudden & Co., Toledo, Ohio, at 6% and \$1066 premium.

Tenn., Gallatin—City sold \$33,000 coupon or registered elementary school bonds to I. B. Tigrett & Co., Jackson, as 4½s.

Tenn., Jackson—City, reported, sold \$60,000, 4½% armory bonds to Little, Wooten & Co., Jackson.

Tenn., Knoxville—Knox County, reported, recently sold \$100,000 tax anticipation notes to Joseph Hutton & Estes, Nashville, at 3¼%.

Tenn., Ripley—Lauderdale County Suprvs. sold \$300,000, highway improvement bonds to Union & Planters Bank, Memphis, at 5¼% and \$1025 premium.

Tex., El Paso—City sold \$206,000 bonds jointly to Dallas Union Trust Co. and Ulen Securities Co., both Dallas, at 100.35.

Tex., Palestine—Anderson County sold \$60,000 jail warrants to Brown-Crummer Co., Wichita, Kans., at 100.35.

Tex., Tyler—Tyler Independent School Dist., reported, sold \$20,000 school bonds to Citizens National Bank, Tyler, at 101.00.

Tex., Wellington—Collingsworth County recently sold \$150,000 courthouse bonds to Ulen Securities Co., Dallas, at 100.64.

Va., Hampton—Wythe School Dist. sold \$39,000 coupon refunding school bonds to Norfolk Investment Corp., Norfolk, at 101.09.

New Financial Corporations

Ky., Covington—Citizens Building Assn. increased capital, \$4,000,000 to \$6,000,000.

Md., Baltimore—St. Wenceslaus Building Association No. 1, John Pivec, Pres., 831 N. Collington Ave., increasing capital.

Md., Baltimore—Title & Investment Corp., 3 S. Eutaw St., chartered; Charles Canby, S. Roy Matthews.

Va., Pearisburg—Giles County Bank & Trust Co., capital \$100,000, chartered; M. L. Harrison, Pres., Wytheville.

Unaka & City National Bank, L. H. Shumate, Pres., and Tennessee National Bank, Adam B. Crouch, Pres., both Johnson City, Tenn., merged.

American and Foreign Power Report

Operating revenues of the American & Foreign Power Company, Inc., New York, and subsidiaries amounted to \$76,410,288 for the 12 months ended March 31, 1931, as compared with \$69,797,773 for the year ended March 31, 1930. Net revenues from operation were \$38,652,673, as against \$34,793,799, and gross corporate income was \$41,448,921, as compared with \$38,165,238. There was a balance applicable to the American & Foreign Power Company, Inc., of \$29,872,044 for the year ended March 31, 1931, as compared with \$27,575,758 for the year ended March 31, 1930.



Newport News Rack Rake at Springfield, Conn. Plant of United Electric Light Company.
(Note traveling carriage serving entire intake)

REPEAT ORDERS

Of the more than one hundred Newport News Rack Rakes installed, nearly one-half were purchased on repeat orders.

FIFTEEN RAKES ON NINE ORDERS	(one company)
NINE RAKES ON THREE ORDERS	(one company)
SIX RAKES ON TWO ORDERS	(one company)
FIVE RAKES ON TWO ORDERS	(one company)
FOUR RAKES ON FOUR ORDERS	(one company)
SIX RAKES ON THREE ORDERS	(two companies)
TWELVE RAKES ON TWO ORDERS	(four companies)
SIX RAKES ON TWO ORDERS	(three companies)

Some companies report a saving of the entire cost of the installation during the first year of use, due to increased power developed and decreased labor costs.

For clean racks at minimum cost install Newport News Power Operated Rack Rakes.

Newport News Shipbuilding and Dry Dock Company

Newport News

Virginia

90 Broad Street, New York, N. Y.

Progress on Railroad Tunnels

Secondcreek, W. Va.—Boxley Brothers Co., Inc., recently awarded contract by the Chesapeake and Ohio Railway Company, C. W. Johns, chief engineer, Richmond, Va., to construct a new double track tunnel here and bridge over the Greenbrier River, is working a 1½-yard Bucyrus machine in the east approach cut and will probably be ready to turn heading about August 1. Work has already begun on pouring concrete in the bridge foundations. The Boxley organization purchased a new 1300-cubic foot electrically driven compressor from the Ingersoll-Rand Co., New York, as well as one of 1100 cubic feet, together with sharpeners and other accessories. It will use a 1½-yard Bucyrus-Erie air-driven machine in the tunnel and Western automatic dump cars. Reinforcing steel for the Greenbrier bridge was purchased from the Truscon Steel Co., Youngstown, Ohio.

Subcontract for a single track tunnel to parallel Mann's tunnel, together with approach cuts, was awarded by the Boxley company to the F. C. Sammons Co., Inc., Huntington, W. Va. The Sammons company purchased a new 1½-yard Lorain gasoline shovel for approach cuts, a 1¼-yard Lorain electric for the tunnel and an 1100-cubic foot electrically driven Ingersoll-Rand air compressor, together with drill, sharpeners and attendant supplies. The company moved about 23,000 yards of excavation in June and has started work from the east end.

The total cost of the Secondcreek and Mann's tunnel projects, together with the bridge across the Greenbrier River, will

be about \$1,564,500. Line revision will extend from Rockland Station westward about 1.5 miles to a point 1.5 miles east of Fort Springs, to include the Secondcreek tunnel, 2150 feet long, and the Greenbrier River bridge, 500 feet long, with 14-foot track centers. The single track Mann's tunnel will be 1060 feet long.

\$610,000 Sewer Bond Sale

Greenville, S. C.—The Greater Greenville Sewer Commission, T. C. Gower, chairman, will open bids July 23 for the purchase of \$610,000 sewer bonds to install water and sewer facilities in Parker, Augusta Road and Northgate subdivisions. Bids for construction will be opened August 11, separate proposals to be received for the work in each district, and the bonds likewise will be sold in separate issues.

Large Orders for Millwork

Meridian, Miss.—The Acme Building Supply Co., of this city, recently closed contracts to supply millwork for several large jobs in five states, according to R. C. Malone, president. Other contracts are pending. The company will furnish millwork for three new Kress buildings at Billings, Montana; Albany, Ga., and Huntsville, Ala., in addition to post-offices at Mansfield, La., and Lumberton, Miss., and another store at Huntsville, Ala. The plant is at present running full time.

\$5,000,000 Mississippi Bond Sale

Jackson, Miss.—Mississippi bonds in the amount of \$5,000,000 to take up outstanding guaranty deposit certificates held by depositors in state banks which closed prior to March 11, 1930, have been sold by the State Bond Commission to a group composed of the following: Saunders and Thomas, Inc., I. B. Tigrett & Co., the First National Bank and the Commerce Securities Co., all of Memphis, Tenn.; C. W. McNear & Co., Chicago, Ill.; Stranahan, Harris & Oatis, Inc., Toledo, Ohio, and the Whitney National Bank, New Orleans, La. The price was par and accrued interest of 4½ per cent.

Georgia Farm Land Inquiries

Tifton, Ga.—More inquiries about farm lands in Georgia have been received by the Atlanta, Birmingham & Coast Railroad during the past six months than during any previous period in many years, it is announced here by C. B. Kealhofer, Atlanta, freight traffic manager of the railroad. Most of the inquiries were from farmers in the Middle West who are interested in locating in Georgia.

Bids on \$400,000 Post Office

Brownsville, Tex.—Bids will be opened August 14 by the Treasury Department, Washington, Jas. A. Wetmore, Acting Supervising Architect, for the construction (except elevators) of the proposed new post office here. The building will cost approximately \$400,000.

HELPFULNESS

is the motto of this Bank.
Let us tell you about it.

BALTIMORE COMMERCIAL BANK

GWYNN CROWTHER, President

26 South Street, Baltimore, Md.

Capital and Surplus \$1,350,000.00

Member Federal Reserve System

We Buy Bonds

City, County, School and Road from
Municipalities and Contractors

WRITE

THE PROVIDENT SAVINGS BANK & TRUST CO.
CINCINNATI OHIO

JOHN NUVEEN & CO.

First National Bank Building

CHICAGO

We purchase SCHOOL, COUNTY and MUNICIPAL
BONDS. Southern Municipal Bonds a Specialty.

Write us if you have bonds for sale

YOUNG & SELDEN COMPANY

MANUFACTURING

Bank and Commercial Stationers

BALTIMORE, MD.

HAVE YOU BONDS FOR SALE?

WE BUY ALL CLASSES OF MUNICIPAL BONDS,
INCLUDING CITY, COUNTY, SCHOOL,
PAVING, ROAD AND DRAINAGE

The Hanchett Bond Co. Inc.

30 SOUTH LA SALLE ST., CHICAGO

Announcement of the D-N CORPORATION

THE Decarie Incinerator Corporation wishes to announce a consolidation of their entire interests with those of a recent former personnel of the Nye Odorless Incinerator Corporation. The joining of these interests into a new corporation known as the D-N Corporation gives the incinerator industry the oldest and largest incinerator organization in America.

The new company's officers and directors are composed of the Decarie personnel and that of a recent former Nye personnel. It will be in a position to furnish practically every known type of modern incineration. The company also has acquired franchises and ownership in numerous types of sewage disposal equipment and therefore will embark in the sanitation field in its entirety.

The corporation's executive offices will be at Winston-Salem, N. C. Branch offices in New York, Chicago, Albany, Ga., Memphis, Tenn., San Antonio, Texas, and Los Angeles, Cal., and sales representatives throughout the U. S. and Canada.

Were you too late?

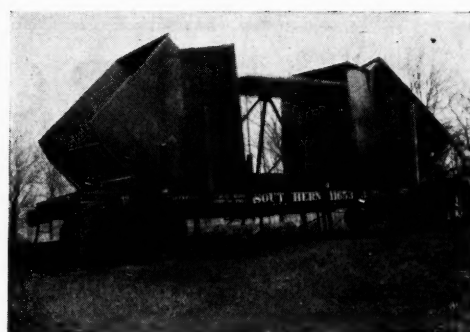
Business opportunities are frequently lost for lack of dependable information. Modern industry demands the closest possible contact with a selected market. Advance news relative to proposed developments is invaluable.

The Daily Construction Bulletin has been proven of outstanding worth in this respect. It is issued each business day covering accurately and completely engineering, manufacturing, financial and industrial undertakings of consequence in the South.

To enlarge your share of future contracts follow every day

Daily Construction Bulletin

STEEL PLATE CONSTRUCTION



BIG SMOKE BREECHING

Specifications on this job called for smoke breaching with close angles to deliver a big volume. Birmingham Boiler "delivered the goods".

We specialize in riveted or welded stacks, air ducts, bins, storage tanks, machine guards, large pipe, and all kinds of special plate work.

Standard Line of Oil Storage Tanks Carried in Stock.

Write For Prices

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Birmingham, Ala.

BIRMINGHAM BOILER

STEEL PLATE CONSTRUCTION

Mississippi's Manufacturing Advantages

(From the Vicksburg Post)

Mississippi is forging ahead as a cotton manufacturing state, measured by the number of spindles in place. Mississippi's spinning facilities have increased more rapidly during the last three years than have those of any other state in the Union.

From May, 1928, to May, 1931, the number of spindles in Mississippi cotton mills increased from 176,400 to 206,000, a gain of 16.8 per cent, compared with gains of 14.9 per cent in Alabama, 6.7 per cent in Georgia, 3.8 per cent in South Carolina, 2.4 per cent in Tennessee and 0.6 per cent in North Carolina. The increase in the cotton-producing states of the South as a whole was 3.4 per cent during this three-year period.

Mississippi growth of 16.8 per cent contrasts with decreases of 27.1 per cent in Massachusetts, 13.6 per cent in Rhode Island and 7.9 per cent in the United States as a whole.

Discussing the advantages of Mississippi as a cotton manufacturing state, President L. A. Downs, of the Illinois Central System, recently said:

"Mississippi is centrally located, and its possibilities of increased productivity are almost unlimited. The national center of cotton production is in this state. Its transportation facilities are not surpassed by any other cotton-producing state. A short distance to the north are the national centers of population and consumption. Mississippi is close to the

great merchandising and distributing points of the Central West—closer, in fact, than the cotton-manufacturing districts of either the Carolinas or New England. Through nearby ports Mississippi is within easy reach of the rapidly growing textile markets of Latin America. Labor, living and climatic conditions in Mississippi are equal to those to be found anywhere and superior to those to be found in many places."

Open \$9,000,000 Rail Line

Roanoke, Va.—The new 39-mile Buchanan Branch Line of the Norfolk and Western Railway, which runs from Devon, W. Va., on the main line, to Hurley and Grundy, Va., was formally opened for traffic on July 1. The line, built at a cost of approximately \$9,000,000, penetrates a mountainous country rich in natural resources, including coal and timber. The completion of the project, which has been under construction since November, 1929, gives Buchanan County its first standard gauge railroad, and makes the territory easily accessible.

The railroad contains a branch of approximately four miles which runs from the mouth of Home Creek down the Levisa Fork to the Virginia-Kentucky state line.

The building of the Buchanan Branch involved the digging of two tunnels, one 1600 feet long and another, 4000 feet, and the moving of 2,500,000 cubic yards

of material, the greater part of which was solid rock. The line was built for heavy traffic. All bridges and drainage structures are of permanent types.

Mill Changes Ownership

Murphy, N. C.—Local stockholders of the Nu-Fashion Hosiery Mill have acquired a controlling interest in the property, which consists of a modern mill-type mill building, real estate, knitting, sewing, dyeing and finishing machinery for the manufacture of women's silk and rayon hosiery. Its product is sold under the trade name of "Nu-Fashion" hosiery. W. M. Fain is president of the company.

Sale of Mill Confirmed

Columbia, Tenn.—The sale of the Cadet Hosiery Mill to the Massachusetts Knitting Mills, J. S. Gordon, president, Boston, Mass., has been confirmed and plans are being made to put the mill in operation. Workers will be put on the payroll as rapidly as they can qualify for the work until a total of 400 operatives have been engaged for day and night shifts. The mill will manufacture full-fashioned hosiery under the MKM trademark and will spin silk used in the manufacture of the product. Machinery for this purpose is now being installed. Eventually it is planned to install a dyeing plant.



PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS



Bids close August 17, 1931.

War Department, Office Constructing Quartermaster, Fort Bragg, N. C. Sealed Proposals in triplicate will be received until 10:00 A. M., August 17, 1931, and then publicly opened, for the construction and completion of a monument at Cowpens Battlefield, Ezell, S. C. \$10.00 deposit certified check, payable to Treasurer of United States, required for plans and specifications. A certified check or Bid Bond in the amount of \$1200.00 will be required with each proposal. Further information on request.

Bids close July 28, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., July 14, 1931.—SEALED BIDS in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 2 p. m., July 28, 1931, for furnishing all labor and materials and performing all work for fire alarm system at the U. S. post office, Baltimore, Md. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at this office, in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

GENERAL INFORMATION About Proposal Advertising in Manufacturers Record

PUBLICATION DAY: Thursday.
FORMS CLOSE: 10 A. M. Tuesday.

When too late to send copy by regular mail to reach us by 10 A. M. Tuesday, forward by night letter or air mail when possible

THE DAILY CONSTRUCTION BULLETIN OF THE MANUFACTURERS RECORD

Published every business day, gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Construction Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened or when daily insertions are necessary to meet legal requirements.

The rate is the same for both publications—35 cents a line each insertion.

Bids close July 28, 1931.

U. S. ENGINEER OFFICE, FIRST NEW ORLEANS DISTRICT, Poland and Dauphine Sts., New Orleans, La., June 27, 1931.—SEALED bids, in duplicate, will be received until 3 P. M., July 28, 1931, and then publicly opened for furnishing all labor and materials and performing all work for dredging the Louisiana and Texas Intra-coastal Waterway, Mississippi River-Atchafalaya River Section, from Bayou Blue to Bayou Chene, La., comprising approximately 8,744,600 cubic yards, place measurement. Further information on application.

Bids close July 28, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., June 30, 1931.—SEALED BIDS in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 2 p. m., July 28, 1931, for furnishing all labor and materials and performing all work for new brass water piping, etc., at the U. S. post office, etc., Valdosta, Ga. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at this office, in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 31, 1931.

U. S. Engineer Office, 300 Custom House, Baltimore, Md. Sealed proposals will be received here until 3 P. M., Eastern Standard Time, July 31, 1931, and then publicly opened, for dredging approximately 30,000 cubic yards of material, place measurement, in Broad Creek, Md., at Pocomoke Sound.

Bids close August 4, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., July 7, 1931.—SEALED BIDS in duplicate subject to the conditions contained herein will be publicly opened in this office at 2 p. m., August 4, 1931, for furnishing all labor and materials and performing all work for new boiler and heating system at the U. S. court house and post office, Jefferson, Texas. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931. (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 27, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., June 29, 1931.—SEALED BIDS in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 2 p. m., July 27, 1931, for furnishing all labor and materials and performing all work for new heating system, etc., at the U. S. post office and court house, Tallahassee, Fla. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at this office, in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close July 28, 1931.

Bridge Construction and Alterations

DEPARTMENT OF PUBLIC WORKS
STATE OF MARYLAND
STATE ROADS COMMISSION
NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for construction of bridge; extensions and alterations to bridges as follows:
Frederick County, Contract No. F-119-57—Double, 40 ft. span, steel and concrete girder bridge, located on the road from Frederick to Libertytown over Israel Creek
Montgomery County, Contract No. M-169-311—Extensions and alterations to two bridges on the Rockville Pike between Bethesda and Rockville, one being located 2.1 miles north of Bethesda and the other being located 2.7 miles north of Bethesda
Washington County, Contract No. W-95-611—Gunite work in connection with the existing bridge over Beaver Creek on the road from Boonsboro to Hagers-town, known as Kline's Mill Bridge
will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Streets, Baltimore, Maryland, until 12 M on the 28th day of July, 1931, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans, will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check, payable to the State Roads Commission of Maryland, as required by Sec. 6, Chapter 539, Acts of 1931, of the amount as set forth in the proposal form.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.
BY ORDER of the State Roads Commission this 14th day of July, 1931.

G. CLINTON UHL, Chairman.
L. H. STEUART, Secretary.

Bids close August 4, 1931.

Bascule Bridge

DEPARTMENT OF PUBLIC WORKS
STATE OF MARYLAND
STATE ROADS COMMISSION
NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for construction of Bridge as follows:

Worcester County, Contract No. Wo-69-17—Single leaf, bascule bridge, together with the bascule pier, approach span, operator's house, electrical equipment, machinery, etc., over the Pocomoke River at Snow Hill

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Streets, Baltimore, Maryland, until 12 M on the 4th day of August, 1931, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans, will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check, payable to the State Roads Commission of Maryland, as required by Sec. 6, Chapter 539, Acts of 1931, of the amount as set forth in the proposal form.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 14th day of July, 1931.

G. CLINTON UHL, Chairman.
L. H. STEUART, Secretary.

Bids close July 28, 1931.

Maryland Highway Work

DEPARTMENT OF PUBLIC WORKS
STATE OF MARYLAND
STATE ROADS COMMISSION
NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for building five sections of State Highway as follows:

Calvert County, Contract No. C-47-82—One section of State Highway from the Prince Frederick-Port Republic Road at a point 1.6 miles north of Port Republic toward Bowers, a distance of 1.86 miles (Gravel)

Calvert County, Contract No. C-53-82—One section of State Highway from the Sunderland-Lower Marlboro Road toward Huntingtown, a distance of 1.30 miles (Gravel)

Charles County, Contract No. Ch-107-84—One section of State Highway from Grayton toward Ironsides, a distance of 0.99 miles (Gravel)

Harford County, Contract No. H-132-42—One section of State Highway along the Belair-Forest Hill Road from the end of Contract No. H-72 toward Forest Hill, a distance of 0.75 mile (Macadam)

Wicomico County, Contract No. W-81-111—One section of State Highway from Salisbury toward Princess Ann, a distance of 2.90 miles (Concrete Shoulders) will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Streets, Baltimore, Maryland, until 12 M on the 28th day of July, 1931, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans, will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check, payable to the State Roads Commission of Maryland, as required by Sec. 6, Chapter 539, Acts of 1931, of the amount as set forth in the proposal form.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.
BY ORDER of the State Roads Commission this 14th day of July, 1931.

G. CLINTON UHL, Chairman.
L. H. STEUART, Secretary.

Bids close August 6, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., July 9, 1931.—SEALED BIDS, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., August 6, 1931, for furnishing all labor and materials and performing all work for the construction of the U. S. post office at Barboursville, Ky. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Shoe Machinery

Proposals are solicited for the equipment and installation of a shoe industry to be installed in the Kentucky State Reformatory at Frankfort, Kentucky, to have an output of approximately 25,000 pairs annually and to be operated by the State with prison labor. Persons interested should communicate at once with the State Board of Charities and Corrections, State Capitol, Frankfort, Kentucky.

Bids close August 14, 1931.

Town Hall

DeQuincy, La., July 7, 1931.

Notice is hereby given that the Town Council of the Town of DeQuincy, Louisiana, will receive bids for the remodeling and construction of a Town Hall for the Town of DeQuincy, Louisiana, according to complete plans and specifications prepared by R. S. McCook, Incorporated, Architects, Lake Charles, Louisiana. Bidders will be required to furnish a certified check, payable to F. E. Farris, Mayor of the Town of DeQuincy, for five per cent (5%) of the amount of their bid as a guarantee of good faith.

Bids will be received up to the hour of 7:00 o'clock P. M., Friday, August 14, 1931. At 7:30 P. M. the Town Council of the said Town of DeQuincy will convene in open session at the Town Hall in the said Town of DeQuincy for the purpose of opening and considering the said bids.

All bids shall be sealed and addressed to M. M. Smith, Clerk of the Town of DeQuincy, Louisiana.

Plans and specifications and proposal forms may be procured at the office of the Architects upon deposit of Twenty-five Dollars (\$25.00), to be refunded when returned.

The Town Council reserves the right to reject any or all bids and waive all formalities.

F. E. FARRIS, Mayor.
M. M. SMITH, Clerk.

Bids close August 4, 1931.

Construction and Material Proposals

Bastrop, La.

The Police Jury of Morehouse Parish will receive bids at Bastrop, Louisiana, up to 11 A. M., Tuesday, August 4th, 1931, and at that time and place publicly open and read proposals for the furnishing of creosoted and untreated bridge lumber and piling; for the furnishing of gravel F. O. B. Gallon, La., and for the construction of the following project:

Beginning at a point on the South end of the Riddick Lane, 6 miles south of Bonita, thence South and West 12 3/4 miles to a connection with Road Project No. 11, 3 miles East of Gallon, La., the project to be constructed being known as Project No. 7 in Road and Bridge District No. 4.

Information governing manner of submitting proposals, terms of payment and proposal blanks for submitting bids on the above work may be secured upon application at the Parish Engineer's office at Bastrop, Louisiana. A certified check in the amount of 5% of the amount bid must accompany each proposal and a Surety bond in the amount of 50% of the total amount bid will be required when contract is awarded.

J. LESTER WHITE,
Parish Engineer.

J. W. BRODNAX,
President, Police Jury.

CLASSIFIED OPPORTUNITIES

MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

FOR SALE—10,000 acres prospective oil land near producing wells in Western Louisiana. Land is well blocked and is worth \$10.00 per acre for farming purposes. Price \$3.00 per acre. J. C. HARRISON & CO., Clarksville, Ark.

FARM, FRUIT AND TRUCK LANDS

ALABAMA

FOR SALE, 6800 acres Baldwin Co., Ala., on main line L. N. R. R., including small town with all buildings and improvements. Pecan Orchard, Timber, good water, \$8 per acre, half cash. Also 3550 acres adjoining in N. W. Florida. Owner, Mrs. H. M. LAWRENCE, Dyas, Alabama.

VIRGINIA

FOR SALE—A famous estate of about 630 acres of bluegrass and rich river bottom land known throughout Southwest Virginia as the best. Produces finest horses and cattle and all grain crops. Large dwelling of 14 rooms. Night ride from Washington. Ideal climate. Price \$140 per acre; mineral rights reserved. Address Owners, Box 66, Marion, Va.

BUSINESS OPPORTUNITIES

LONG TERM LOANS, large amounts, made on industrial, mercantile, sawmill properties. THOS. W. GILMER, Attorney, Bay Minette, Alabama.

WANTED—A PARTY to finance the manufacturing and distribution of liquid Aspirin, best preventative for influenza. Address No. 9119, care of Manufacturers Record, Baltimore, Md.

MANUFACTURERS—Write for our FREE Classification Sheets of inventions for sale, covering 135 main subjects, and in one or more of which you will doubtless be interested. ADAM FISHER MFG. CO., 578 Enright, St. Louis, Mo.

MOVING AHEAD

Parkersburg has worked out of the depression. Diversified industry did it. Locate your factory here at the gateway to the Central West and South.

BOARD OF COMMERCE,
Parkersburg, West Virginia.

HAVE DISCOVERED evidence of large deposits of rock salt on own property. This is near high calcium limestone. Want to hear from interested chemical companies who would prospect on agreeable terms. Address No. 9122, Manufacturers Record.

INDUSTRIAL SURVEYS

ENGINEERING REPORTS on resources of cities and towns. Recommendations for industrial development and zoning made by specialists in locating industries.

TECHNICAL SERVICE CO.,
Woolworth Building New York City

INDUSTRIES WANTED

WANTED—Pecan cracking and processing plant in the heart of the native pecan country, 300 car loads a year in a radius of 50 miles. CHAMBER OF COMMERCE, Pauls Valley, Okla.

INDUSTRIAL PLANTS

FOR SALE or Lease—Completely equipped twenty automatic loom blanket plant. All machinery modern. For complete information write to the Stone's River Woolen Mills, Murfreesboro, Tennessee.

Rates, Terms and Conditions

RATES: 30 cents a line each insertion. Minimum space accepted, four lines. In estimating the cost allow six or seven words of ordinary length to line. When the advertisement contains a number of long words proper allowance should be made.

Rates for Special Contract:
100 lines 28c a line
300 lines 26c a line
500 lines or more 25c a line

TERMS: For transient advertising cash with order; check, post office or express money order or stamps accepted.

On special contract advertising bills are rendered monthly, covering space used each month, payable within ten days.

CONDITIONS. No patent medicine, oil or mining stock advertisements or questionable or undesirable advertisements will be accepted. The assistance of our readers in excluding undesirable advertisements is requested. No display type used.

FACTORY SITES

TWO AND ONE-QUARTER MILES railroad frontage industrial sites for sale at Baton Rouge. Southern Land and Investment Company, Baton Rouge, La.

PATENT ATTORNEYS

PATENTS—Booklet free. Highest references. Best results. Promptness assured. WATSON E. COLEMAN, Patent Lawyer, 724 Ninth St., N. W., Washington, D. C.

PAUL B. EATON, Patent Attorney
1408-R Johnston Bldg., Charlotte, N. C.
314 McLachlin Building, Washington, D. C.
417 Wachovia Bldg., Winston-Salem, N. C.

FREE "PATENT PARTICULARS"
Sterling Buck, over 23 years Registered Patent Attorney. Prompt and thorough services. Suite M 629 F, Washington, D. C.

SEYMOUR & BRIGHT, Registered Patent Attorneys. Established 1876. PATENTS, TRADEMARKS, COPYRIGHTS. Prompt and thorough service. Suite 892, National Press Building, Washington, D. C.

REPRESENTATIVES WANTED

MEN WANTED who sell fire appliances, to handle a Gasoline Non-Explosive safety valve for use on all gasoline tanks and a line of one and five gallon Non-Explosive gasoline cans.

EMERSON ENGINEERING CORP.,
Alexandria, Va.

AGENCIES WANTED

MANUFACTURERS AGENT calling on builders, supply dealers and contractors in Virginia and North Carolina desires items of merit to offer customers of ten years' standing. Address No. 9110, care of Manufacturers Record, Baltimore, Md.

A. E. RITCH,
Manufacturers Agent,
315 Red Rock Bldg., Atlanta, Ga.

A Strictly High Class Service Organization to Manufacturers of High Class Products.

Our Motto

More VOLUME on QUALITY PRODUCTS

Let us Serve You.
Executive—Personal—Service.

SITUATIONS WANTED

FILTER PLANT ERECTOR open for engagement, 25 years experience with all classes of equipment. New work or remodeling old work. Any job, small or large. Go anywhere. CHARLES HARDING, 1522 South Napa St., Philadelphia, Pa.

EDITOR and newspaper manager with long experience and excellent record offers his services to owner of small paper who is dissatisfied with present profits. Knows how to cut costs and bring maximum output; very reasonable salary or will lease business. Address No. 9121, care Manufacturers Record, Baltimore, Md.

ESTIMATOR-MANAGER. Ten years experience as superintendent, estimator, branch office manager covering wide range of building construction. Prefer connection well established firm where eventually be possible take share of profits on work I secure and handle as part of salary. Address No. 9120 care Manufacturers Record, Baltimore, Md.

CAPABLE AMERICAN FARM MANAGER invites correspondence with owner of large, well equipped, well located farm with good soil, good stock and modern conveniences. Will start for reasonable salary and share in livestock, share of profits or bonus. Experienced with pure bred stock, high grade milk, retail routes, fruit growing and market gardening. Only long terms agreement desired.

C. D. ALLEN, Delanson, N. Y.

GRANITE MANAGER of exceptional executive ability who has operated the largest plants and quarries in the country, competent to take full charge of any proposition and make money, at present employed, is open for a connection with a progressive Granite Manufacturing or Quarrying Concern, who desires to introduce machinery and modern methods to cutting granite, prefers connection where he can eventually secure an interest. Address No. 9123, care Manufacturers Record, Baltimore, Md.

MEN WANTED

IF YOU ARE OPEN to overtures for new connection and qualified for a salary between \$2500 and \$25,000, your response to this announcement is invited. The undersigned provides a thoroughly organized service of recognized standards and reputation, through which preliminaries are negotiated confidentially for positions of the caliber indicated. The procedure is individualized to each client's personal requirements, your identity covered and present position protected. Established twenty-one years. Send only name and address for details.

R. W. BIXBY, INC.,

103 Downtown Bldg. Buffalo, New York

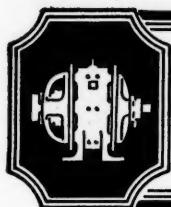
MACHINERY AND SUPPLIES

OIL ENGINES, Steam Engines, Motors, Shafting, Pulleys, Hangers. All kinds transmission and motive power equipment. Exceptionally low prices. Write or wire STANDARD MILL SUPPLY COMPANY, 1301 Waldheim Building, Kansas City, Mo.

ELECTRIC WELDING PLANT with air compressor, acetylene cutting outfit, cables, airhose and tools, mounted on 3 ton truck. Ideal outfit for Marine, Industrial or Oil field purpose—A1 condition. Photo on request. Price \$2,500 f.o.b. New Orleans. Write 305 Wells Fargo Bldg., New Orleans, La.

14"x6' LEBLOND LATHE, Quick change	\$300.00
36"x18' Ffield Lathe	700.00
20"x14' Reed Lathe, Taper attachment	275.00
No. 1 1/2 Valley City Milling Machine	300.00
24" Cincinnati Shaper, Back Geared	700.00
23" Rockford Drill Press	125.00

Send us your inquiries. Secure our catalog. CINCINNATI MACHINERY & SUPPLY CO., 25 West 2nd St., Cincinnati, Ohio.



RESALE DEPARTMENT

MACHINERY

EQUIPMENT

SUPPLIES



FOR SALE

- 1-75 KW, DC, direct connected Crocker-Wheeler Co. Generator, No. 180817, size 83-D, type CCD, 275 RPM, 250 volts, 300 amperes, direct connected to 12x12 American-Ball automatic engine, No. 11011. Complete with switchboard and all necessary instruments\$600.00
- 1-55 KW, Sprague Electric Co. DC, belt driven Generator, type D, 625 RPM, 220 amperes, 250 volts, No. 49958\$300.00
- 1-6½ KW, Sprague Electric Co. DC, belt driven Generator, type C, 233 amperes, 1150 RPM, 230 volts. \$100.00.
- 2-Fairbanks-Morse No. 1½ Home Lighting outfits, complete with engine and generator each.....\$75.00

T. G. ADAMS MACHINERY CO.
220 W. Bay St., Savannah, Ga.
P. O. Box 1597

— TRANSFORMERS — SALES AND REPAIR SERVICE

Quick Delivery and Low Prices



A complete stock of transformers 1 to 1000 kva. Modern methods make our repair service second to none. Special service on breakdown jobs.

*All transformers guaranteed for one year.
Write for Catalog. No. 125-E.*

The Electric Service Company, Inc.
"America's Used Transformer Clearing House"
212 Walnut St., Cincinnati, Ohio



Second Hand and New Wrought Steel **PIPE** Overhauled New Threads and Couplings
Also Cut to Sketch
Greenpoint Iron & Pipe Co., Inc.
187-205 Maspeth Ave. Brooklyn, N. Y.

IRON AND STEEL PIPE
Large quantity new and used Government material in excellent condition, ready for immediate shipment. Low prices.
CENTRAL PIPE & SUPPLY CO.
Box 1099 Charleston, W. Va.

"Two Sawmills and Equipment For Sale

100,000 capacity double band pine and hardwood mill complete with 3 Shay locomotives, 1 Heisler, 1 loader, 2 skidders, logging cars and parts, planing mill, machine shop, dry kiln and yard equipment; also, commissary and office fixtures, located at Zama, Miss.

We also have a single band mill complete with battery of 3 boilers 72" x 18' at Gould, Ark.

We are offering all of this equipment for sale at 40 to 90% savings to purchaser. Write us for complete list.

Send all inquiries to Zama, Miss. office and they will be given prompt and careful attention. We have large stock of new material in supply house.

W. P. BROWN & SONS LUMBER CO., INC.
Zama, Mississippi"

SATISFACTION
ALBERT PIPE SUPPLY CO., INC.
NEW-RECLAIMED-USED
PIPE
ALL SIZES CUT TO SKETCH AND STOCKED
BERRY & NORTH 13th STS.
BROOKLYN, N.Y.
GUARANTEED

PIPE NEW
SECOND HAND
Overhauled and Tested
New Threads and Couplings
Established 1904
Albert & Davidson Pipe Corp.
Second Ave., 50th-51st St., Brooklyn, N. Y.
Telephone Sunset 1900

FIRE PUMP
750 gallon Worthington Underwriters Centrifugal Fire Pump, 100 lb. pressure, electric motor driven, 75 H. P. 220/440 volt, 3 phase, 60 cycle motor.
Large assortment motor driven centrifugal pumps. Advise capacity and pressure wanted.

GENERATOR SETS
200 KVA 220 volt 3 phase 60 cycle Burke with Filer Stowell uniflow engine.
2-50 KVA 220 volt 3 phase 60 cycle Ridgway with Ridgway engine.

AIR COMPRESSOR
676 cu. ft. Ingersoll Rand 2 stage motor driven air compressor.
New stock list G-77 now ready. Copy mailed on request.

O'BRIEN Machinery Company
118 N. Third St. Philadelphia

The Resale Department

offers a market to dispose of *used equipment*. What it has done for others can be done for you.

Let us tell you more about it

Manufacturers Record
Baltimore, Md.

PIPE

Rethreaded, reconditioned, guaranteed suitable for all practical purposes, furnished with new threads and couplings, 400,000 ft. in all sizes from 24" to ¾" diam.

5000 ft. 8" NEW GALVANIZED CORRUGATED pipe in lengths 16 to 20 ft. suitable for exhaust drains, water systems, sewers, conduits, etc., complete with necessary sleeves.

Very attractive prices.

Marine Metal & Supply Co.
167 South Street, New York City

BOILERS

High pressure water tube and H R T boilers at unbelievable prices.
We have them in practically every southern state and are scrapping all but the very best. Write us your requirements.

W. M. SMITH & CO.
Box 1709 Birmingham, Ala.

IF IT'S NEW PIPE OR SECOND HAND

black or galvanized up to 12"—we have it. Cut and threaded to any length. **SPECIAL:** a carload of 3" or 4". Cheap at any time, rethreaded and coupled.

Your inquiry means—Another satisfied customer.

HUDSON PIPE AND SUPPLY COMPANY
34th Street and C. R. R. of N. J. Bayonne, N. J.

PRICED TO SELL !!

75 KW., 125 volt D.C., 600 amp., 275 r.p.m. Northern Generator direct connected to Ball right hand, center crank, slide valve Engine.

100 KW., 250 volt D.C., 400 amp., 275 r.p.m. Wood Generator direct connected to 16x15 Skinner slide valve Engine.

200 KVA., 8 PF 3-60-2300 volt, 200 r.p.m., Western Elec. Generator direct connected to 17x21 Chase 4 valve non-releasing gear Corliss right hand Engine.

1,000 g.p.m., 8x10x12-in. Knowles steam driven Underwriters Fire Pump.

Send for Complete Stock List—
Bulletin No. 39

Rockford Power Machinery Co.
626 6th St., Rockford, Ill.

Your ADVERTISEMENT

In these pages place your facilities before the leaders in manufacturing and industrial operations in the South and Southwest, creating wider markets for your products.

Advertising rates gladly submitted upon request

MANUFACTURERS RECORD
Baltimore Maryland

FOR SALE EDGE MOOR WATER TUBE BOILERS (A.S.M.E. Code)

2-737 hp. Edge Moor water tube boilers, built for 200 lb. working pressure, equipped with Foster superheaters for 100° superheat, and Wetzel stokers. Installed 1925; excellent condition. Boilers now in operation at Hershey, Pa.; can be released about August 1st. For particulars, address

Hershey Chocolate Corporation, Hershey, Pa.

OIL ENGINES
300-20 to 1000 HP to choose from
ZELNICKER IN ST. LOUIS
Tanks, Steel Piling, Rails,
Equipment, etc.
Send us your inquiries



RAILROAD AND CONTRACTORS' EQUIPMENT



Cableway and Crusher

12x12 D. C. Lidgerwood Cableway Single Drum Hoisting Engine—5 Levers Quadrant, AAI Condition—Immediate Shipment.

24x36 Farrell Jaw Crusher—Type 15 B.

Arthur S. Partridge—St. Louis—417 Pine St.

FOR SALE OR LEASE

We have always on hand for sale or lease, Jordan spreaders, sixteen and twenty yard all-steel air dump cars, Model-75, Lorain gasoline shovel ready for immediate delivery in first class condition.

W. VA. CONSTRUCTION COMPANY
First Huntington National Bk. Bldg., Huntington, W. Va.

CONCRETE FINISHING MACHINES

FOR SALE

- 1-20' Ord late type double screed finishing machine, rebuilt and guaranteed.....\$1250.00
- 1-18' Ord late type double screed finishing machine, rebuilt and guaranteed.....\$1000.00

R. S. ARMSTRONG & BRO. CO.
ATLANTA, GA.

STEEL SHEET PILING

NEW and USED

Rented - Sold - Bought

Stocks at principal points.

HYMAN-MICHAELS COMPANY

St. Louis CHICAGO New York
Houston San Francisco Seattle

Shovels or Cranes

FOR SALE

- 1-Factory rebuilt Lima 1 1/4 cu. yd. capacity. This machine can be equipped with either shovel, clamshell, dragline or drag shovel attachments. Very reasonably priced. Carries new machine guarantee. Located at Newark, N. J.
- 1-GENERAL 1/2-yd. combination shovel, backhoe, 2 buckets, and crane boom. Very good condition, located Long Island.
- 1-GA-2 Erie Gas Air Shovel. Fine condition and bargain. Located Newark, N. J.
- 1-Complete Shovel Attachment for Type "O" Thew. Also, attachment for Type B and B-2 Eries located in New Jersey. Decided bargains.
- 1-P & H 1 1/4 yd. Gas Shovel. Excellent condition, very attractive price. Located Newark, N. J.
- 1-Linn Tractor, 6 yd. capacity, with Waukesha Motor. Machine in very good condition. Priced to sell quickly. Located New York State.
- 1-Koeberling 3/4 yd. Shovel. Excellent condition throughout. Located Newark, N. J.

LIMA EXCAVATOR SALES AGENCY

Lima, O., Office: Eastern Offices and Warehouse,
Lima Trust Bldg. 317 Frelinghuysen Ave., Newark, N. J.
Tel. Main 4824 Tel. Waverly 2-0640

Wire or phone nearest office at our expense

RELAYING RAILS—SWITCHES TRACK MATERIAL

THE PERRY BUXTON DOANE CO.

P. O. Box 5253 Boston, Mass.

36" PORTABLE TRACK

25 lb. rails—7 steel ties per 15 ft. section. Over ten miles, located Ocala, Fla. Also locomotives, cars, cranes and shovels.

Write us or have your local dealer do so.

EQUIPMENT CORPORATION OF AMERICA
1166 So. Washtenaw Ave., Chicago

FOR SALE

P. & H. Model 206, 3/4-yd. Dragline.
Byers, 10-ton Caterpillar Crane, 3/4-yd. Clam.
O. & S. 22 1/2-ton Loco. Crane 50' Boom.
16-12-yd. Western Steel Beam Dump Cars.
10-50-tons capy. All Steel Twin Hopper Cars.
75-ton, 20x26" 6-Driver Switcher, A. S. M. E.
50-ton, 18x24" 6-Driver Switcher.
92-ton, 20 1/2x28" Mikado (2-8-2) BUILT 1923.
35-ton, 13x20" 4-Driver Ssd. Tank.
56-ton, 18x24" 4-Driver Ssd. Tank.

WE HAVE OVER FORTY LOCOMOTIVES IN STOCK. REBUILT AND READY ALL TYPES. 10 TO 100 TONS

Southern Iron & Equipment Co.,
Atlanta, Ga.

50 TONS 100 LB. RELAYING RAILS

150 TONS 80 LB. RELAYING RAILS

HENRY LEVIS & COMPANY
Commercial Trust Bldg. Philadelphia

RAILS NEW & RELAYING ALL WEIGHTS

Let us know your needs. We may have material in stock near you.

**WE BUY RAILS FIT TO RE-LAY
ROBINSON & ORR**

Columbia Bldg., 248 Fourth Ave., Pittsburgh, Pa.
New Frogs and Switches at low prices.

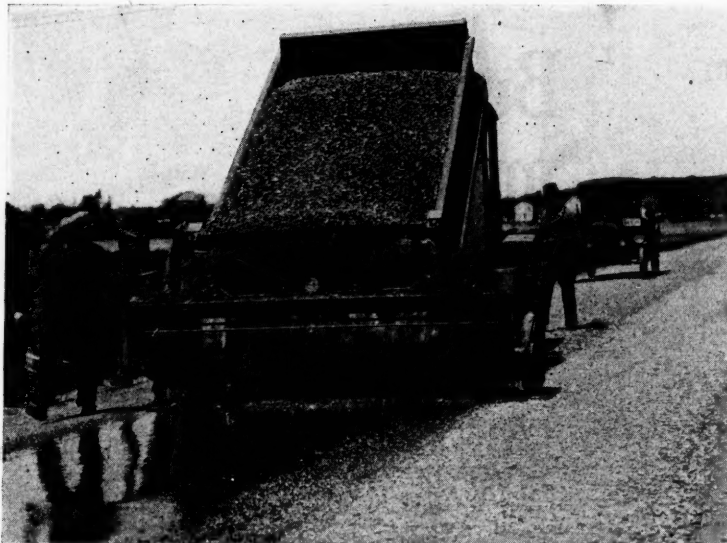
IDLE MACHINERY

Can be
Disposed of
by
Advertising
it in the

Manufacturers Record
Baltimore, Md.

THE UTILITY SPREADER

a mechanical device for spreading Stone, Cinders, Gravel,
Sand, Slag, Screenings, or other surfacing materials.



THIS new and efficient spreader is quickly attached and detached from a truck.

Proper spreading does not depend on gravity but is due to independent agitation of material with a side traction wheel.

Spreads any width—6" to 9', any thickness— $\frac{1}{4}$ " to 5".

The spreader works equally well either way, forward or backward.

Every Highway official and contractor should be interested in the Utility Spreader, because it does better work at about half the cost and a minimum delay of traffic.

We have a few territories available for distributors.

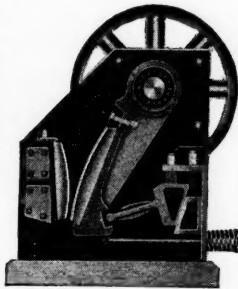
GILLIE MACHINE CO. - - TONAWANDA, N. Y.

GRUENDLER Roller Bearing All Steel Fine Reduction CRUSHER

for
QUARRIES
ROAD MAINTENANCE
CONSTRUCTION WORK
Stationary and Portable

Also manufacturers of complete Fertilizer Grinding and Mixing Machinery—Gravel Screening and Washing Plants—Elevating and Conveying Machinery.

GRUENDLER
Crusher and Pulverizer Co.
2915 N. Market St., ST. LOUIS, MO.
Dept. M.



INDUSTRIAL CAR EQUIPMENT



THE ATLAS CAR & MANUFACTURING CO.
Cleveland, Ohio

**BUCYRUS
ERIE**

**BUCYRUS
MONIGHAN**
WALKING
DRAGLINE
EXCAVATORS

SHOVELS
CRANES
DRAGLINES
DREDGES

Reliability!

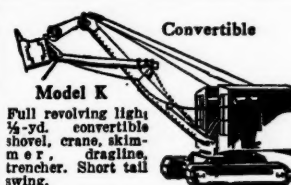
Bucyrus-Eries are cutting costs in every part of the world. All sizes, types and powers of excavators. Railway cranes and "Load-master."

Bucyrus-Erie Co.
South Milwaukee, Wisconsin

**Crushed Stone
Mascot Chatts Roofing Gravel
Asphaltic Roadway Gravel
Asphalt Filler Dust**



AMERICAN LIMESTONE COMPANY
KNOXVILLE TENNESSEE



Full revolving light
 $\frac{1}{4}$ -yd. convertible
shovel, crane, skim-
mer, dragline,
trencher. Short tail
swing.

POWER SHOVELS
Cranes, Trenchers
SKIMMERS

Full or part circle
BAY CITY SHOVELS, Inc.
Bay City, Mich.



Owen Buckets

Stronger and Built to Last Longer,
Owen Buckets get "A Mouthful at
Every Bite" and More Bites Per Day.

OWEN BUCKET CO.
901 BREAKWATER AVE. CLEVELAND, OHIO



We produce in quantities to meet your requirements

SAND and WASHED GRAVEL

QUICK shipments by rail from Baltimore and North East, Md. or in scow and barge lots. Truck or rail shipments from Baltimore, Md.

The Arundel Corporation

MAIN OFFICE: ARUNDEL BUILDING
BALTIMORE, MARYLAND

Branches: New York, Norfolk and Miami

DUSTDOWN

SETTLES THE DUST PROBLEM

Better and costs less than oil or straight calcium chloride. Unexcelled for gravel and dirt roads, parks, cemeteries, and private driveways.

J. Q. DICKINSON & CO., MALDEN, W. VA.



for economy and permanence in Road Building and General Construction

WOODSTOCK SLAG CORP.

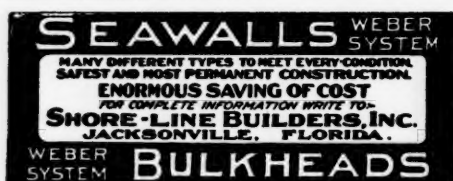
Southern Railway Bldg., Birmingham, Ala.

SAND—GRAVEL—BRICK FILTER GRAVEL

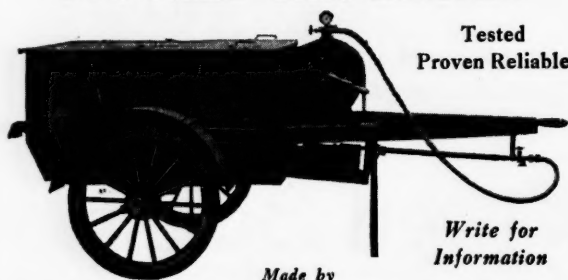
Washed Sand and Gravel for Concrete Roads and Buildings

Filter Gravel, all sizes—Building Bricks

FRIEND & CO., INC. River St., Petersburg, Va.



MR. CONTRACTOR! MR. HIGHWAY ENGINEER! YOU NEED THIS HEATER



Tested
Proven Reliable

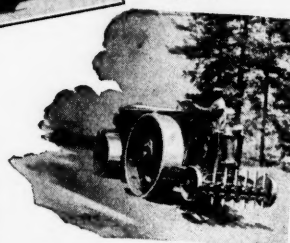
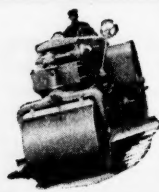
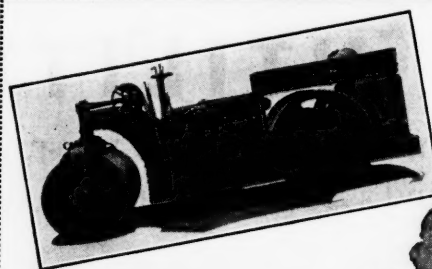
Write for
Information

Made by

The JOS. HONHORST COMPANY

1016-20 W Sixth St.,

CINCINNATI, O.



Buffalo-Springfield ROLLERS

The widespread adoption of Buffalo-Springfield Rollers can mean only one thing—that the builders of our roads and streets consider them the most practical and the most dependable rollers on the market. It is the old adage "values will tell" reasserting itself.

All practical sizes, both steam and motor driven. Scarifiers and other special attachments when desired.

When in the market, investigate the Buffalo-Springfield. Write for illustrated booklet describing the entire line.

The Buffalo-Springfield Roller Co.
Springfield, Ohio

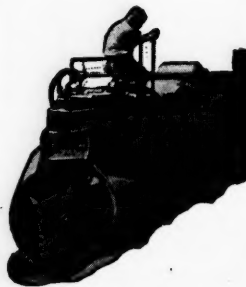
Tamping Costs Go Down!

There's far less time put in on hand tamping when you put down the asphalt with an ERIE Roller—

Better clearance, easier steering, shorter turning radius allow the ERIE to get into the close places and compact the asphalt close to curbs, corners, man-holes, etc.

Write today for Bulletin "M".

ERIE MACHINE SHOPS
Erie, Pa.



RUSSELL Highball Wheel Scraper

Road Plows

Rooter Plows

Road Drags

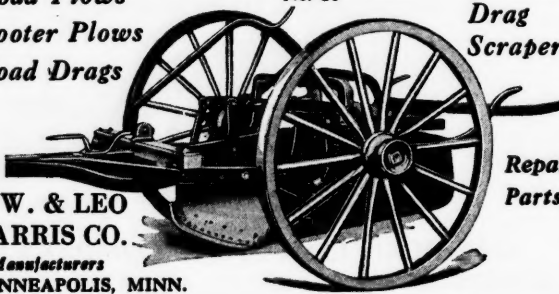
Write for Catalog
No. 30

Fresno

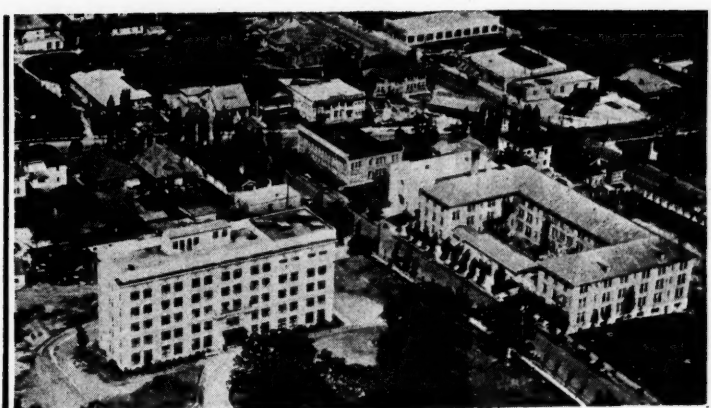
Drag

Scrapers

B. W. & LEO
HARRIS CO.
Manufacturers
MINNEAPOLIS, MINN.



Repair
Parts



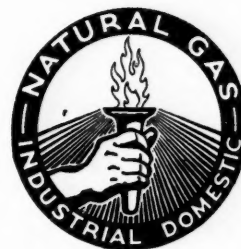
Georgia Hospital uses-*Natural* GAS

The heating plant of a hospital is an important part of its equipment. Consistent, dependable, uniform heat often plays a big part in the recovery of a patient.

Natural gas is the fuel used in the boilers of the Georgia Baptist Hospital, Atlanta. Natural gas heat is so easy to control, either manually or automatically. It makes no soot, no ashes, there is nothing to shovel into the furnace and nothing to haul away.

For hospitals, homes, hotels, schools, apartment houses, wherever there is a heating plant, the use of natural gas fuel is an advantage.

Complete information on the application of natural gas to your heating plant will be supplied without obligation. Write to



SOUTHERN NATURAL GAS CORPORATION

WATTS BUILDING
BIRMINGHAM, ALA.





Hotels of Distinction

mayfair

8th and st. charles

Lennox

9th and washington

in st. Louis

IN the center of shopping and theatre district. Bed lamp, floor lamp . . . hand-set telephone, fans, circulating ice water, in every room. Club meals, Garage Service, Coffee Shop. Room and Bath \$3.00 to \$4.50

Florida

Leads the Union in the production of citrus fruits and winter vegetables.

Cattle raising and dairying are also fast becoming leading industries of the state.

Soil—climate and ample rainfall are the main contributing factors.

You should investigate these and other opportunities that the state has to offer.

For information and literature—write

Model Land Company

Flagler System

St. Augustine

Florida

The late Henry M. Flagler and his organizations have served Florida since 1886

OPPORTUNITIES

Industrial and Agricultural

The A. & W. P.—W. Ry. of Alabama and Georgia Railroads traverse a territory rich in material and potential resources. Attractive industrial sites. For information apply:

**Commercial and Agricultural
Dev. Dept.—Above Lines
Atlanta, Georgia**

Opportunity for Manufacturers

**at
Danville, Va.**

*For full
particulars
communicate
with*

C. B. Strange, City Auditor and Clerk
Post Office Box 475 Danville, Va.

The City of Danville is in position and desires to offer unusual advantages, such as cheaper electric power, ample water supply at low rates, splendid factory sites, cheap labor in abundance and exemption from local taxation for a period not exceeding five years, as an inducement for manufacturing enterprises to locate in the City.

CATALOGUES...

that are real producers of business are the result of careful and understanding cooperation between printer and client.

We offer our readers the facilities of our modern printing plant with its personnel of especially skilled workmen.

Fine printing is not always expensive printing. It is the product of Craftsmen and the use of appropriate materials.

We solicit an opportunity to be of service.

**Manufacturers
RECORD**

BALTIMORE

MARYLAND

What a place for a Convention!

UNLESS all signs fail, there is ahead of us the biggest period of industrial expansion this country has ever known. To take the fullest advantage of this, industries will counsel together and chart their courses at conventions and frequent sales meetings.

Albany is ideally situated for such assemblies. It offers quiet for reflection and deliberation, away from the noise and confusion of congested centers, in a delightful, salubrious climate with health-building recreations, unique and varied.

The hotel facilities are unexcelled in any city of the same size. Attractive convention rates are offered with excellent Southern food and service.

Radium Springs, seven miles away, equipped with magnificent swimming pool, championship golf course, gun traps, large ball room and other delightful recreations.

The world's largest acreage of papershell pecan groves is reached over paved roads through a vast verdant expanse of beautiful trees, resembling a mammoth park; growing in great even rows, with mathematical precision. No convention city can duplicate this.

Albany expresses itself most admirably on convention occasions, the spirit of cordiality contributing toward the most satisfactory and pleasing results.

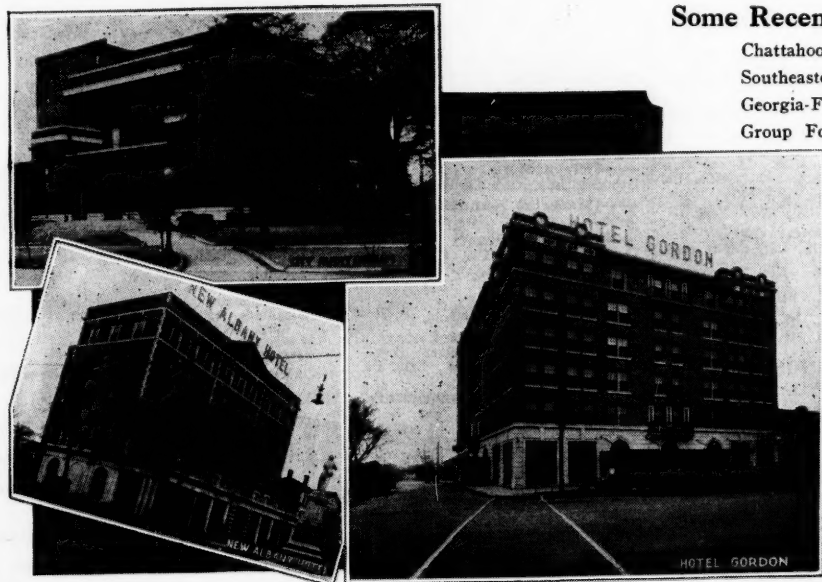
A modern municipal auditorium in the heart of the city, only a pace from the hotels, has a seating capacity of 1800.

Albany shows its visitors notable accomplishments in the last ten years, the result of diversification of crops and industry, made possible by the combination of excellent climate, rich soil and the progressive spirit of its people. Investments are proving themselves in a variety of ways.

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Some Recent Conventions:

Chattahoochee Valley Medical & Surgical Association
Southeastern Hardwood Manufacturers Club
Georgia-Florida Pecan Growers Association
Group Four Georgia Bankers Association
Georgia Insurance Agents Association
National Editorial Association
Georgia State Golf Tournament
Georgia Forestry Association
Georgia Roofers Association
Georgia State Trap Shoot

Already booked for 1932

Master Plumbers Association
State Disabled World War Veterans' Association
Chattahoochee Valley Medical & Surgical Association

Classified Index for Buyers

ABRASIVE MATERIALS.

Carborundum Co., Niagara Falls, N. Y.

ACCOUNTANTS (Cert. and Cost.)
Audit Company of the South, Atlanta, Ga.
Ernst & Ernst, New York, N. Y.

AERIAL TOWERS.

LeBourg, A., Gaudsden, Ala.

AIR COMPRESSORS (Stationary and Portable.)

Armstrong & Bro. Co., R. S., Atlanta, Ga.
De Laval Steam Turbine Co., Trenton, N. J.
General Electric Co., Schenectady, N. Y.
Quincy Compressor Co., Quincy, Ill.
Westinghouse Traction Brake Co., Wilmerding, Pa.

AIR CONDITIONING SYSTEMS.

Niagara Blower Co., New York, N. Y.

AIR HEATERS.

Babcock & Wilcox Co., New York.

AIRLOCKS.

Alco Products, Inc., New York, N. Y.

ANGLE IRON-WORKING MACHINERY.

Whitney Metal Tool Co., Rockford, Ill.

APPRAISERS.

Conrad, William R., Burlington, N. J.
Main, Inc., Chas. T., Boston, Mass.

ARCHITECTS.

Chase, Wm., J. J., Atlanta.
Main, Inc., Chas. T., Boston, Mass.
Milburn, Helster & Co., Wash., D. C.
Moyer Co., Tilghman, Allentown, Pa.
Preacher & Co., Inc., G. Lloyd, Atlanta.
Sirrline & Co., J. E., Greenville, S. C.
Wheeler, Walter H., Minneapolis, Minn.

ARCHITECTS' SUPPLIES.

Weber Co., Inc., F., Philadelphia, Pa.

ARCHITECTURAL IRON WORK.

Dietrich Brothers, Baltimore, Md.
Virginia Bridge & Iron Co., Roanoke, Va.

ASPHALT.

Gulf Refining Co., Pittsburgh, Pa.

—(Emulsified.)

Headley Emulsified Products Co., Philadelphia, Pa.

—Filler.

American Limestone Co., Knoxville, Tenn.

—Paving.

Barber Asphalt Co., Philadelphia, Pa.

—Plants.

Simplicity System Co., Chattanooga, Tenn.

AUDITORS.

Ernst & Ernst, New York, N. Y.

RABBIT METAL.

Ryerson & Son, Inc., Jos. T., St. Louis and New York.

BACKFILLERS.

Harnischfeger Corp., Milwaukee, Wis.
National Equipment Corp. (Insley, Parsons), Milwaukee, Wis.

BALLAST (Railroad.)

American Limestone Co., Knoxville, Tenn.

BANKS and TRUST COMPANIES.

Baltimore Commercial Bank, Balto, Md.
Baltimore Trust Co., Baltimore, Md.
Bank of New York & Trust Co., New York City.
First and Merchants National Bank, Richmond, Va.
Provident Savings Bank & Trust Co., Cincinnati, Ohio.

BARGES (Steel.)

American Bridge Co., New York, N. Y.
McClintic-Marshall Co., Pittsburgh, Pa.

BARBS (Steel, Rounds, Flats, Hexagon and Squares.)

Carnegie Steel Co., Pittsburgh, Pa.
Connors Steel Co., Birmingham, Ala.
Gulf States Steel Co., Birmingham, Ala.
Ingalls Iron Works Co., Birmingham.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Sweet's Steel Corp., Williamsport, Pa.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Timken Roller Bearing Co., Canton, O.

Virginia Bridge & Iron Co., Roanoke, Va.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

BATTERIES (Storage.)

Electric Storage Battery Co., Phila., Pa.

BEAMS, CHANNELS, ANGLES.

Belmont Iron Works, Philadelphia, Pa.
Carnegie Steel Co., Pittsburgh, Pa.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Ingalls Iron Works Co., Birmingham.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Virginia Bridge & Iron Co., Roanoke, Va.

BEARINGS (Anti-friction.)

Timken Roller Bearing Co., Canton, Ohio.

—(Roller.)

Timken Roller Bearing Co., Canton, Ohio.

BELT (Chain.)

Diamond Chain & Mfg. Co., Indianapolis.

—(Leather, Canvas, Rubber.)

Charlotte Leather Belting Co., Charlotte, N. C.

—Dressing.

Charlotte Leather Belting Co., Charlotte, N. C.

Dixon Crucible Co., Jos., Jersey City, N. J.

—Fasteners.

Flexible Steel Lacing Co., Chicago, Ill.

—Lacing (Steel Hinges.)

Flexible Steel Lacing Co., Chicago, Ill.

BELT CONVEYORS.

Barber-Greene Co., Aurora, Ill.

BILLETS (Basic Open Hearth.)

Gulf States Steel Co., Birmingham, Ala.

Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

BINS (Steel Loading.)

Blaw-Knox Co., Pittsburgh, Pa.

Butler Bin Co., Waukesha, Wis.

BLASTING POWDER and Accessories.

Du Pont de Nemours & Co., E. I., Wilmington, Del.

BLINDS (Venetian and Awning.)

Wilson Corp., The J. G., New York.

BLOCKS (Chain.)

Wright Mfg. Co., Bridgeport, Conn.

—(Friction.)

Palmer Asbestos & Rubber Corp., Chicago.

BOILER REPAIRS.

Finnigan Co., Inc., J. J., Atlanta, Ga.

BOILERS (New.)

Babcock & Wilcox Co., The, New York.

Charleston Dry Dock & Machine Co., Charleston, S. C.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.

Cole Mfg. Co., R. D., Newnan, Ga.

Combustion Engr. Corp., New York, N. Y.

Hedgcs Welsh Weldner Co., Chattanooga, Tenn.

Lombard Iron Works & Supply Co., Augusta, Ga.

Lookout Boiler & Mfg. Co., Chattanooga, Tenn.

Schofield's Sons Co., J. S., Macon, Ga.

Titusville Iron Works Co., Titusville, Pa.

—(Oil.)

Babcock & Wilcox Co., New York.

—(Scotch Marine.)

Lookout Boiler & Mfg. Co., Chattanooga, Tenn.

—(Used.)

Delta Equipment Co., Philadelphia, Pa.

O'Brien Machinery Co., Philadelphia, Pa.

Randle Machinery Co., The, Cincinnati, O.

Zelicker Supply Co., W. A., St. Louis.

BOILER SETTINGS.

Babcock & Wilcox Co., New York.

—Tubes.

Babcock & Wilcox Co., New York.

National Tube Co., Pittsburgh, Pa.

Ryerson & Son, Inc., Jos. T., St. Louis and New York.

—Tubes (Charcoal, Iron.)

Reading Iron Co., Reading, Pa.

BOLTS, Rivets, Studs, Washers.

Bethlehem Steel Co., Bethlehem, Pa.

Oliver Iron & Steel Corp., Pittsburgh, Pa.

Progressive Mfg. Co., Torrington, Conn.

Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.

Ryerson & Son, Inc., Jos. T., St. Louis and New York.

Virginia Bridge & Iron Co., Roanoke, Va.

—(Track.)

Sweet's Steel Co., Williamsport, Pa.

BOND BUYERS.

Hanchett Bond Co., Inc., The, Chicago.

Law & Co., A. M., Spartanburg, S. C.

Nuveen & Co., John, Chicago, Ill.

Provident Savings Bank and Trust Co., Cincinnati, Ohio.

BORINGS (Core.)

Kennedy-Biegler Drilling Co., New York City.

Mott Core Drilling Co., Huntington, W. Va.

Pennsylvania Drilling Co., Pittsburgh, Pa.

Southern Drilling Co., Saltville, Va.

Sprague & Henwood, Inc., Scranton, Pa.

BOXES (Paper.)

Old Dominion Box Co., Lynchburg, Va.

BRAKE LINING.

Palmer Asbestos & Rubber Corp., Chicago.

BRASS GOODS.

Mueller Co., Decatur, Ill.

BRICK (Common Building.)

Friend & Co., Inc., Petersburg, Va.

—(Vitrified, Paving.)

National Paving Brick Assn., Washington, D. C.

—and Clayworking Machy.

Steel & Sons, J. C., Statesville, N. C.

BRIDGE (Operating Machinery.)

Earle Gear & Machine Co., Phila., Pa.

—Slabs.

Kerlow Steel Flooring Co., Jersey City, N. J.

—Timber.

American Cressoting Co., Louisville, Ky.

Kirby Lumber Co., Houston, Texas.

BRIDGES (Steel.)

American Bridge Co., New York, N. Y.

Belmont Iron Works, Philadelphia, Pa.

Bristol Steel & Iron Works, Inc., Bristol, Va.

Converse Bridge & Steel Co., Chattanooga, Tenn.

Ingalls Iron Works Co., Birmingham, Ala.

McClintic-Marshall Co., Pittsburgh, Pa.

Roanoke Iron & Bridge Works, Roanoke, Va.

Virginia Bridge & Iron Co., Roanoke, Va.

BRONZE (Architectural.)

Hest Company, J. S., Waukegan, Ill.

Michels Art Bronze Co., Covington, Ky.

BUBBLERS.

Rundle-Spence Mfg. Co., Milwaukee, Wis.

BUCKETS (Clam Shell.)

Blaw-Knox Co., Pittsburgh, Pa.

Industrial Brownhoist Corp., Cleveland, O.

Owen Bucket Co., The, Cleveland, Ohio.

Williams Company, G. H., Erie, Pa.

—(Coal.)

Owen Bucket Co., Cleveland, O.

—(Dredging, Excavating, Sewer, etc.)

Owen Bucket Co., The, Cleveland, Ohio.

Stuebner Iron Works, G. L., Long Island City, N. Y.

Williams Company, G. H., Erie, Pa.

—(Elevator.)

Hendrick Mfg. Co., Carbondale, Pa.

—(Material Handling.)

Owen Bucket Co., Cleveland, O.

—(Ore Handling.)

Owen Bucket Co., The, Cleveland, Ohio.

Stuebner Iron Works, G. L., Long Island City, N. Y.

—(Rehandling.)

Owen Bucket Co., Cleveland, O.

—(Sand and Gravel.)

Owen Bucket Co., Cleveland, O.

Williams Company, G. H., Erie, Pa.

BUILDERS and Contractors.

Cowper Co., Inc., The John W., Richmond, Va.

Lockwood Greene Engrs., Inc., Boston.

Moyer Co., Tilghman, Allentown, Pa.

Thompson & Bros., T. C., Charlotte, N. C.

United Engineers & Constructors, Phila.

White Engineering Corp., J. G., New York.

BUILDINGS (Industrial.)

Belmont Iron Works, Philadelphia, Pa.

Blaw-Knox Co., Pittsburgh, Pa.

Ingalls Iron Works Co., Birmingham.

McClintic-Marshall Co., Pittsburgh, Pa.

Truscon Steel Co., Youngstown, O.

Virginia Bridge & Iron Co., Roanoke, Va.

—(Portable Sheet Metal.)

Birmingham Tank Co., Birmingham.

BULKHEADS.

Shore-Line Builders, Inc., Jacksonville, Fla.

Snare Corp., Frederick, New York, N. Y.

BULLDOZERS.

Trackson Co., Milwaukee, Wis.

BURLAP.

Fulton Bag & Cotton Mills, Atlanta, Ga.

BUSINESS METHODS.

Ernst & Ernst, New York, N. Y.

CABLE (Elevator.)

American Steel & Wire Co., Chicago, Ill.

Roebbing's Sons Co., John A., Trenton, N. J.

—(Stud Link.)

Woodhouse Chain Works, Trenton, N. J.

—and Wire (Electric.)

American Steel & Wire Co., Balto, Md.

Roebbing's Sons Co., John A., Trenton, N. J.

Western Electric Co., New York City.

CALCIUM CHLORIDE.

Grasselli Chemical Co., Inc., Birmingham.

CAN and Box-Making Machinery (Tin.)

Bliss Co., E. W., Brooklyn, N. Y.

CANNING MACHINERY.

Robins & Co., A. K., Baltimore, Md.

CANVAS.

Fulton Bag & Cotton Mills, Atlanta, Ga.

CAR (Loaders and Unloaders.)

Barber-Greene Co., Aurora, Ill.

CARS (Dump, Industrial, Logging and Mine.)

Atlas Car & Mfg. Co., The, Cleveland, O.

Southern Iron & Equipment Co., Atlanta.

CASSIONS (Foundations, Water Wells, etc.)

United Welding Co., Middletown, O.

CASTINGS (Alloy.)

Mountain State Steel Foundries, Parkersburg, W. Va.

—(Brass, Bronze and Aluminum.)

Richmond Foundry & Mfg. Co., Richmond, Va.

Savannah Mch. & Fdry. Co., Savannah, Ga.

—(Chilled Iron.)

Fuller Lehigh Co., Fullerton, Penna.

—(Gray Iron.)

Fuller Lehigh Co., Fullerton, Penna.

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—(Silent Drive.)
Diamond Chain & Mfg. Co., Indianapolis.
—(Welded.)
Woodhouse Chain Works, Trenton, N. J.

CHAIRS (Opera and Theatre.)
Andrews Co., A. H. Chicago, Ill.

CHEMICALS.
Davison Chemical Co., Baltimore, Md.
Grasselli Chemical Co., Inc., Birmingham.

CHEMISTS, CHEMICAL ENGINEERS (Analytical.)

Barrow-Azee Laboratories, Memphis, Tenn.
Froehling & Robertson, Inc., Richmond, Va.
Hunt Co., Robert W., Chicago, Ill.
Longdale Laboratories, Inc., Richmond, Va.
Meigs, Bassett & Slaughter, Phila., Pa.
Moss, Jr., W. Wade, Columbus, Ga.
Pisard Laboratories, Birmingham, Ala.
Pittsburgh Testing Laboratories, Pittsburgh, Pa.
Southwestern Laboratories, Fort Worth, Tex.
Stillman & Van Sielen, New York.

—(Consulting, Paper Industry.)
Froehling & Robertson, Inc., Richmond, Va.

CHIMNEYS (Concrete.)
Rust Engineering Co., Birmingham, Ala.

—(Radial Brick.)
Northwestern Chimney Constr. Co., Cleveland, O.
Rust Engineering Co., Birmingham, Ala.

—(Inspected and Repaired.)
Northwestern Chimney Constr. Co., Cleveland, O.

CHLORIDE ACCUMULATOR.
Electric Storage Battery Co., Phila., Pa.

CHUTES.
Cutler Mail Chute Co., Rochester, N. Y.

CIRCUIT BREAKERS.
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

CLOCKS (Watchman's Portable.)
Davis-Paradis Watchman's Clock Corp., New York, N. Y.

CLOTH (Wire.)
Newark Wire Cloth Co., Newark, N. J.

CLUTCHES (Friction.)
Caldwell Co., Inc., W. E., Louisville, Ky.

COAL (Bituminous.)
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

—(and Ash-Handling Mch.)
Industrial Brownhoist Corp., Cleveland, O.
Northwest Engineering Co., Chicago.

—(Jigs.)
Steward Machine Co., Chas. C., Birmingham, Ala.

—(Tipplers.)
American Bridge Co., New York, N. Y.
Virginia Bridge & Iron Co., Roanoke, Va.

—(Washers.)
Steward Machine Co., Chas. C., Birmingham, Ala.

COATINGS (Protective.)
Headley Emulsified Products Co., Philadelphia, Pa.

COCKS (Service.)
Merco Nordstrom Valve Co., San Francisco, Calif.

COKE.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

COLUMNS (Cast Iron.)
U. S. Pipe & Fdry. Co., Burlington, N. J.

CONCRETE (Block Machinery.)
Blystone Mfg. Co., Cambridge Springs, Pa.

—(Construction (Reinforced).)
Cement-Gun Co., Inc., Allentown, Pa.
Cement Gun Construction Co., Chicago.
Rust Engineering Co., Birmingham, Ala.

—(Floor Slabs.)
Federal-American Cement Tile Co., Chicago.

—(Mixers.)
Blystone Mfg. Co., Cambridge Springs, Pa.
Dunning & Boschert Press Co., Inc., Syracuse, N. Y.

—(Pipe Machinery (See Pipe Machinery, Concrete).)

—(Placing Equipment.)
National Equipment Corp. (Insley Division), Milwaukee, Wis.

—(Roofing Tile.)
Federal-American Cement Tile Co., Chicago.

CONDENSERS.
Manistee Iron Works Co., Manistee, Mich.
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

CONDUITS (Electric, Interior, Steel.)
Western Electric Co., New York, N. Y.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

CONTRACTORS (Bridge.)
Hardaway Contracting Co., Columbus, Ga.
Kansas City Bridge Co., Kansas City, Mo.
Snare Corp., Frederick, New York.

—(Drainage and Dredging.)
Arundel Corp., The, Baltimore, Md.
Atlantic Gulf and Pacific Co., New York.

—(Electrical.)
Virginia Engineering Co., Inc., Newport News, Va.

Walker Electrical Co., Atlanta, Ga.
Warner Service Co., Knoxville, Tenn.
Webb Electric Co., Anderson, S. C.

—(Foundations and Dams.)
Snare Corp., Frederick, New York, N. Y.

—(General.)
Blair, Algernon, Montgomery, Ala.

Burkes, Inc., J. V. & R. T., New Orleans.
Cornell Young Co., Inc., Macon, Ga.

Copper Co., Inc., John W., Richmond, Va.
Fiske-Carter Constr. Co., Greenville, S. C.
Gridley Constr. Co., Lee A., Knoxville, Tenn.

Saville, Inc., Allen J., Richmond, Va.
Smallman-MacQueen Construction Co., Birmingham.

Snare Corp., Frederick, New York, N. Y.
Thompson & Bros., T. C., Charlotte, N. C.
Tucker & Laxton, Charlotte, N. C.

White Engineering Corp., J. G., New York.

—(Industrial Buildings.)
Blair, Algernon, Montgomery, Ala.

Copper Co., Inc., John W., Richmond, Va.
Fiske-Carter Constr. Co., Greenville, S. C.
Lockwood Greene Engrs., Inc., Boston.

Smallman-MacQueen Construction Co., Birmingham.

Snare Corp., Frederick, New York, N. Y.
Thompson & Bros., T. C., Charlotte, N. C.
Tucker & Laxton, Charlotte, N. C.

Virginia Engineering Co., Inc., Newport News, Va.

White Engineering Corp., J. G., New York.

—(Mill Village.)
Hornbuckle Contracting Co., Atlanta, Ga.

—(Power Piping.)
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.

Poe Piping & Heating Co., Greenville, S. C.

—(Power Plants.)
Snare Corp., Frederick, New York, N. Y.
Virginia Engineering Co., Inc., Newport News, Va.

—(Railroad.)
Cornell-Young Co., Inc., Macon, Ga.

—(Reinforced Concrete.)
Blair, Algernon, Montgomery, Ala.

Cement Gun Construction Co., Chicago.
Gunite Conc. & Constr. Co., Kansas City.
Tucker & Laxton, Charlotte, N. C.

—(Road and Street Paving.)
Fiske-Carter Constr. Co., Greenville, S. C.
Gridley Constr. Co., Lee A., Knoxville, Tenn.

Hornbuckle Contracting Co., Atlanta, Ga.
McCary Co., J. B., Atlanta, Ga.
Virginia Engineering Co., Inc., Newport News, Va.

—(Sewerage and Waterworks.)
Gridley Constr. Co., Lee A., Knoxville, Tenn.

Hardaway Contracting Co., Columbus, Ga.
Hornbuckle Contracting Co., Atlanta, Ga.
McCary Co., The J. B., Atlanta, Ga.

Snare Corp., Frederick, New York, N. Y.
Tucker & Laxton, Charlotte, N. C.
Virginia Engineering Co., Inc., Newport News, Va.

—(Sprinkler System.)
Poe Piping & Heating Co., Greenville, S. C.

—(Machinery and Supplies.)
(Used.)
Adams Mch. Co., T. G., Savannah, Ga.

Lima Excavator Sales Agency, Lima, Ohio.
Marine Metal & Supply Co., New York.

CONTRACT WORK WANTED.
(See following classifications):
Boiler and Tank Work.

Castings.
Forgings.
Foundries and Machine Shops.

Machinery (Special).
Ornamental Iron Work.
Patterns.

Sheet Metal Work.
Structural Steel and Iron.
Welding Plants.

CONVEYING AND ELEVATING MACHINERY.

Barber-Greene Co., Aurora, Ill.
Fairfield Engr. Co., Marion, Ohio.
Universal Crusher Co., Cedar Rapids, Ia.

CONVEYORS (Portable, Power-Driven.)
Clark Tractor Co., Battle Creek, Mich.
Fairfield Engr. Co., Marion, Ohio.

COOLING AND HEATING UNITS (Fan.)
Niagara Blower Co., New York, N. Y.

COTTON GIN MACHINERY.
Continental Gin Co., Birmingham, Ala.

COUPLINGS.
Goldens' Fdy. & Mch. Co., Columbus, Ga.

—(Flexible.)
Diamond Chain & Mfg. Co., Indianapolis, Ind.

CRANES.
Industrial Brownhoist Corp., Cleveland, O.
National Equipment Co. (Insley, Koehring, Parsons), Milwaukee, Wis.

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

—(Cantilever, Gantry.)
Bedford Foundry & Machine Co., Bedford, Ind.

—(Crawler.)
Harnischfeger Corp., Milwaukee, Wis.
Industrial Brownhoist Corp., Cleveland, O.

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

—(Crawling Tractor.)
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.

Thew Shovel Co., The, Lorain, Ohio.

—(Electric Traveling.)
Bedford Foundry & Machine Co., Bedford, Ind.

Harnischfeger Corp., Milwaukee, Wis.

—(Full Circle Steam and Electric.)
Northwest Engineering Co., Chicago, Ill.

Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

—(Gasoline.)
Harnischfeger Corp., Milwaukee, Wis.

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

—(Locomotive.)
Bucyrus-Erie Co., So. Milwaukee, Wis.

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

—(Material Handling.)
Bay City Shovels, Inc., Bay City, Mich.

Industrial Brownhoist Corp., Cleveland, O.
Northwest Engineering Co., Chicago, Ill.

Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.
Universal Crane Co., Lorain, Ohio.

—(Traveling Hand Power.)
Wright Mfg. Co., Bridgeport, Conn.

CRAWLERS (Tractor.)
Trackson Co., Milwaukee, Wis.

CREOSOTED MATERIALS.
Amer. Creosote Wks., Inc., New Orleans.
Atlantic Creosoting Co., Norfolk, Va.

CREOSOTED TIMBER.
Ayer & Lord Tie Co., Chicago, Ill.
Brown Wood Preserving Co., Louisville, Ky.

CREOSOTE OIL.
Amer. Creosote Wks., Inc., New Orleans.
Ayer & Lord Tie Co., Inc., Chicago.

CREOSOTING (Wood Material.)
Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.

Atlantic Creosoting Co., Norfolk, Va.
Brown Wood Preserving Co., Louisville, Ky.
Eppinger & Russell Co., New York, N. Y.

Gulf States Creos. Co., Hattiesburg, Miss.

CROSS-ARMS (Creosoted.)
Amer. Creosote Wks., Inc., New Orleans.

Amer. Creosoting Co., Inc., Louisville, Ky.
Atlantic Creosoting Co., Norfolk, Va.

—(Zinc Meta Arsenic Treated.)
Curtin-Howe Corp., New York, N. Y.

CROSS-TIES (Creosoted.)
Amer. Creosote Wks., Inc., New Orleans.

Amer. Creosoting Co., Inc., Louisville, Ky.
Atlantic Creosoting Co., Norfolk, Va.

—(Zinc Meta Arsenic Treated.)
Curtin-Howe Corp., New York, N. Y.

CRUSHED STONE (Road Concrete and Ballast.)
American Limestone Co., Knoxville, Tenn.

Borley & Co., W. W., Roanoke, Va.

CRUSHERS (Coal and Coke.)
Fuller Lehigh Co., Fullerton, Pa.

Steward Machine Co., Chas. C., Birmingham, Ala.

—(Rock.)
Diamond Iron Works, Minneapolis, Minn.

Gründler Crusher & Pulverizer Co., St. Louis, Mo.

Universal Crusher Co., Cedar Rapids, Ia.

CRUSHING AND Pulverizing Machinery.
Allis Chalmers Mfg. Co., Milwaukee, Wis.

Diamond Iron Works, Minneapolis, Minn.
Fuller Lehigh Co., Fullerton, Pa.

Gründler Crusher & Pulverizer Co., St. Louis, Mo.

Traveler Engr. & Mfg. Co., Allentown, Pa.
Universal Crusher Co., Cedar Rapids, Ia.

CURB PROTECTOR. (Steel Bar.)
Truscon Steel Co., Youngstown, Ohio.

CYLINDERS (Compressed Air, Gas.)
National Tube Co., Pittsburgh, Pa.

—(Creosoting.)
Alco Products, Inc., New York, N. Y.

DAMP-PROOFING.
Headley Emulsified Products Co., Philadelphia, Pa.

DESKS (School.)
Andrews Co., A. H., Chicago, Ill.

DITCHING MACHINERY.
Barber-Greene Co., Aurora, Ill.

Bay City Shovels, Inc., Bay City, Mich.
Harnischfeger Corp., Milwaukee, Wis.

Industrial Brownhoist Corp., Cleveland, O.
Northwest Engineering Co., Chicago, Ill.

Ohio Power Shovel Co., Lima, Ohio.

DOORS (Bronze.)
Michaels Art Bronze Co., Covington, Ky.

—(Fire.)
Merchant & Evans Co., Philadelphia, Pa.

—(Fireproof, Air Chamber.)
Wilson Corp., The J. G., New York.

—(Revolving.)
Michaels Art Bronze Co., Covington, Ky.

—(Rolling, Steel and Wood.)
Wilson Corp., The J. G., New York.

—(Steel.)
Truscon Steel Co., Youngstown, Ohio.

—(Vault.)
York Safe & Lock Co., York, Penna.

DRAFTSMEN'S SUPPLIES.
Weber Co., Inc., F., Philadelphia, Pa.

DRAGLINE EXCAVATORS.
Bucyrus-Erie Co., So. Milwaukee, Wis.

Harnischfeger Corp., Milwaukee, Wis.
National Equipment Corp. (Koehring, Insley), Milwaukee, Wis.

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.

Thew Shovel Co., The, Lorain, Ohio.

DREDGES (Dipper, Elevator, Hydraulic.)
Bay City Shovels, Inc., Bay City, Mich.

Bucyrus-Erie Co., So. Milwaukee, Wis.

DREDGING (River and Harbor Improvement.)
Arundel Corp., The, Baltimore, Md.

Atlantic Gulf and Pacific Co., New York.

DRILLING CONTRACTORS.
Kennedy-Biegger Drilling Co., New York City.

Mott Core Drilling Co., Huntington, W. Va.

Myers & Sons, J. L., Denton, Texas.
Pennsylvania Drilling Co., Pittsburgh, Pa.

Southern Drilling Co., Saltville, Va.
Sprague & Hemwood, Inc., Scranton, Pa.

DRILLS (Oil and Artesian Well.)
Virginia Machinery & Well Co., Inc., Richmond, Va.

DRINKING FOUNTAINS.
Rundle-Spence Mfg. Co., Milwaukee, Wis.

DROP-FORGING MACHINERY.
Bliss Co., E. W., Brooklyn, N. Y.

DRYERS (Gravel and Sand.)
Ripley Fdy. & Mch. Co., Ripley, Ohio.

DRYING MACHINERY.
Chicago Bridge & Iron Wks., Birmingham.

DUST-PROOFING (Concrete.)
Sonnenborn Sons, Inc., L., New York.

DYNAMITE (Industrial and Agricultural.)
Du Pont De Nemours & Co., Inc., E. I. Wilmington, Del.

ECONOMIZERS (Fuel.)
Babcock & Wilcox Co., New York.

ECONOMISTS (Administrative.)
Brookline Economic Service, New York City.

ELECTRICAL Instruments and Supplies.
General Electric Co., Schenectady, N. Y.

Western Electric Co., New York City.

—(Machinery (Generators, Motors, etc., New).)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.

Fairbanks, Morse & Co., Chicago, Ill.
General Electric Co., Schenectady, N. Y.

Partridge, Arthur S., St. Louis, Mo.
Rockford Power Mch. Co., Rockford, Ill.

Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

—(Machinery (Generators, Motors, etc., Used).)
Delta Equipment Co., Philadelphia, Pa.

ELECTRIC LIGHTING.

Westinghouse Lamp Co., New York City.

ELECTRIC SHOVELS (See Shovels.)**ELEVATORS (Electric.)**

American Elevator & Machine Co., Inc., Louisville, Ky.

Millner Co., St. Louis, Mo.

(Hand and Belt Power.)

American Elevator & Machine Co., Inc., Louisville, Ky.

Millner Co., St. Louis, Mo.

(Hydraulic.)

American Elevator & Machine Co., Inc., Louisville, Ky.

ENGINEERS (Airports.)Lockwood Greene Engrs., Inc., New York.
MacElwee & Crandall, Inc., Cambridge, Mass.**(Appraisal.)**

Lockwood Greene Engrs., Inc., New York.

Main, Inc., Chas. T., Boston, Mass.

May, Inc., Geo. S., Chicago, Ill.

Sanderson & Porter, New York, N. Y.

Wadleigh & Bailey, Washington, D. C.

White Engineering Corp., J. G., New York.

Whitman, Requaardt & Smith, Balto., Md.

Wiedeman and Singleton, Inc., Atlanta.

(Bridge.)

Freeland Roberts & Co., Nashville, Tenn.

Gardner & Howe, Memphis, Tenn.

Greiner & Co., J. E., Baltimore, Md.

Hardaway Contracting Co., Columbus, Ga.

Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.

Southern Erectors, Inc., Tampa, Fla.

Steel & Leiby, Knoxville, Tenn.

Turner, C. A. P., Minneapolis, Minn.

Virginia Bridge & Iron Co., Roanoke, Va.

Wheeler, Walter H., Minneapolis, Minn.

Whitman, Requaardt & Smith, Balto., Md.

Wiley & Wilson, Lynchburg, Va.

(Chemical.)

Barrow-Agee Laboratories, Memphis, Tenn.

Dow & Smith, New York, N. Y.

Moss, Jr., W. Wade, Columbus, Ga.

Picard Laboratories, Birmingham, Ala.

Pittsburgh Testing Laboratories, Pittsburgh, Pa.

(Civil.)

Charlton & Davis, Ft. Lauderdale, Fla.

Gardner & Howe, Memphis, Tenn.

Greiner & Co., J. E., Baltimore, Md.

Harrub Engr. Co., C. N., Nashville, Tenn.

Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.

Hills and Youngberg, Jacksonville, Fla.

Huey, S. E., Monroe, La.

MacElwee & Crandall, Inc., Cambridge, Mass.

Main, Inc., Chas. T., Boston, Mass.

Steel & Leiby, Knoxville, Tenn.

White Engineering Corp., J. G., New York.

Whitman, Requaardt & Smith, Balto., Md.

Wiley & Wilson, Lynchburg, Va.

(Consulting.)

Barstow & Co., W. S., New York City.

Charlton & Davis, Ft. Lauderdale, Fla.

Converse & Co., J. B., Mobile, Ala.

Cramer, Robert, Milwaukee, Wis.

Engineering Service Corp., Houston, Tex.

Goder, Joseph, Chicago, Ill.

Harza Engineering Co., Chicago.

Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.

Lockwood Greene Engrs., Inc., New York.

Main, Inc., Chas. T., Boston, Mass.

Smith, Elroy G., Augusta, Ga.

Stillman & Van Sice, New York, N. Y.

United Engineers & Constructors, Phila.

Wadleigh & Bailey, Washington, D. C.

White Engineering Corp., J. G., New York.

Whitman, Requaardt & Smith, Balto., Md.

Wiedeman & Singleton, Inc., Atlanta, Ga.

Wiley & Wilson, Lynchburg, Va.

(Cost.)

Ernst & Ernst, New York, N. Y.

May, Inc., Geo. S., Chicago, Ill.

(Dams.)

Alpaugh & Sons, Chas. W., Manassas, Va.

Barstow & Co., W. S., New York City.

Byllesby Engineering and Management Corp., Chicago, Ill.

Gardner & Howe, Memphis, Tenn.

Hardaway Contracting Co., Columbus, Ga.

Harza Engineering Co., Chicago.

Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.

Lee, William S., Charlotte, N. C.

Main, Inc., Chas. T., Boston, Mass.

Sirrline & Co., J. E., Greenville, S. C.

Tucker & Laxton, Charlotte, N. C.

Wheeler, Walter H., Minneapolis, Minn.

White Engineering Corp., J. G., New York.

Wiley & Wilson, Lynchburg, Va.

(Drainage and Irrigation.)

Cramer, Robert, Milwaukee, Wis.

Hills and Youngberg, Jacksonville, Fla.

Huey, S. E., Monroe, La.

(Efficiency.)

Ernst & Ernst, New York, N. Y.

Whitman, Requaardt & Smith, Balto., Md.

(Electrical.)

Engineering Service Corp., Houston, Tex.

Hoosier Engineering Co., Chicago, Ill.

Lee, William S., Charlotte, N. C.

Lockwood Greene Engrs., Inc., New York.

Main, Inc., Chas. T., Boston, Mass.

Sanderson & Porter, New York, N. Y.

Tucker & Laxton, Charlotte, N. C.

Webb Electric Co., Anderson, S. C.

White Co., Gilbert C., Durham, N. C.

Wiley & Wilson, Lynchburg, Va.

(Electric-Light and Power Plants.)

Barstow & Co., W. S., New York City.

Byllesby Engineering and Management Corp., Chicago, Ill.

Cramer, Robert, Milwaukee, Wis.

Lee, William S., Charlotte, N. C.

Main, Inc., Chas. T., Boston, Mass.

Sanderson & Porter, New York, N. Y.

Scotfield Engineering Co., Philadelphia.

Tucker & Laxton, Charlotte, N. C.

White Engineering Corp., J. G., New York.

White Co., Gilbert C., Durham, N. C.

Wiley & Wilson, Lynchburg, Va.

(Flood Control.)

Harza Engineering Co., Chicago.

(Gas.)

Byllesby Engineering and Management Corp., Chicago, Ill.

Huey, S. E., Monroe, La.

(Geological.)

De Kalb, Courtenay, New York City.

Freohling & Robertson, Richmond, Va.

Moss, Jr., W. Wade, Columbus, Ga.

Wadleigh & Bailey, Washington, D. C.

(Harbor Improvements.)

Engineering Service Corp., Houston, Tex.

(Heating.)

Wiley & Wilson, Lynchburg, Va.

(Hydraulic.)

Alpaugh & Sons, Chas. W., Manassas, Va.

Harza Engineering Co., Chicago.

Main, Inc., Chas. T., Boston, Mass.

Whitman, Requaardt & Smith, Balto., Md.

Wiley & Wilson, Lynchburg, Va.

(Hydro-electric.)

Alpaugh & Sons, Chas. W., Manassas, Va.

Barstow & Co., W. S., New York City.

Byllesby Engineering and Management Corp., Chicago, Ill.

Harza Engineering Co., Chicago.

Lee, William S., Charlotte, N. C.

Main, Inc., Chas. T., Boston, Mass.

Sanderson & Porter, New York, N. Y.

Scotfield Engineering Co., Philadelphia.

Sirrline & Co., J. E., Greenville, S. C.

Tucker & Laxton, Charlotte, N. C.

White Engineering Corp., J. G., New York.

Whitman, Requaardt & Smith, Balto., Md.

Wiley & Wilson, Lynchburg, Va.

(Ice and Refrigerating.)

Engineering Service Corp., Houston, Tex.

(Industrial Plants.)

Barstow & Co., W. S., New York City.

Consoer, Older & Quinlan, Inc., Chicago.

Converse & Co., J. B., Mobile, Ala.

Gardner & Howe, Memphis, Tenn.

Greiner & Co., J. E., Baltimore, Md.

Hills and Youngberg, Jacksonville, Fla.

Lockwood Greene Engrs., Inc., New York.

MacElwee & Crandall, Inc., Cambridge, Mass.

Main, Inc., Chas. T., Boston, Mass.

Preacher & Co., Inc., G. Lloyd, Atlanta.

Sanderson & Porter, New York, N. Y.

Scotfield Engineering Co., Philadelphia.

Sirrline & Co., J. E., Greenville, S. C.

Smith, Elroy G., Augusta, Ga.

Turner, C. A. P., Minneapolis, Minn.

United Engineers & Constructors, Phila.

Wiley & Wilson, Lynchburg, Va.

(Industrial Survey.)

Converse & Co., J. B., Mobile, Ala.

Lockwood Greene Engrs., Inc., New York.

Wadleigh & Bailey, Washington, D. C.

(Inspection and Tests.)

Barrow-Agee Laboratories, Memphis, Tenn.

Conard, William R., Burlington, Tenn.

Cramer, Robert, Milwaukee, Wis.

Dow & Smith, New York, N. Y.

Freohling & Robertson, Inc., Richmond, Va.

Hunt Co., Robert W., Chicago, Ill.

McCallum Inspection Co., Norfolk, Va.

Moss, Jr., W. Wade, Columbus, Ga.

Picard Laboratories, Birmingham, Ala.

Pittsburgh Testing Laboratories, Pittsburgh, Pa.

Southwestern Laboratories, Ft. Worth, Tex.

(Lighting.)

Byllesby Engineering and Management Corp., Chicago, Ill.

Westinghouse Lamp Co., New York City.

Wiley & Wilson, Lynchburg, Va.

(Mechanical.)

Charlton & Davis, Ft. Lauderdale, Fla.

Engineering Service Corp., Houston, Tex.

Lee, William S., Charlotte, N. C.

Lockwood Greene Engrs., Inc., New York.

Main, Inc., Chas. T., Boston, Mass.

Meigs, Bassett & Slaughter, Phila.

Sanderson & Porter, New York, N. Y.

Wiley & Wilson, Lynchburg, Va.

(Mining. See Engineers, Geological.)**(Municipal.)**

Consoer, Older & Quinlan, Inc., Chicago.

Dow & Smith, New York, N. Y.

Freeland, Roberts & Co., Nashville, Tenn.

Harrub Engr. Co., C. N., Nashville, Tenn.

Hills and Youngberg, Jacksonville, Fla.

Huey, S. E., Monroe, La.

Knowles, Inc., Morris, Pittsburgh, Pa.

McCrory Co., The, J. B., Atlanta, Ga.

White Co., Gilbert C., Durham, N. C.

Wiley & Wilson, Lynchburg, Va.

(Paving and Roads.)

Dow & Smith, New York, N. Y.

Freeland, Roberts & Co., Nashville, Tenn.

Harrub Engr. Co., C. N., Nashville, Tenn.

White Co., Gilbert C., Durham, N. C.

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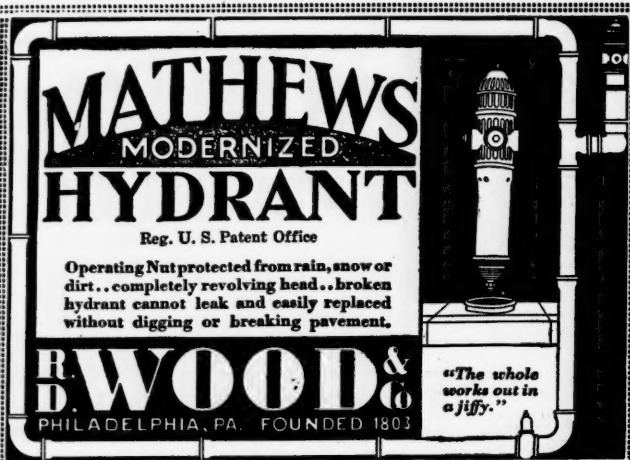
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GULF REFINING CO.

—Production.
Schofield Engineering Co., Philadelphia.
—(Public Service Properties.)
Barstow & Co., W. S., New York City.
Bylesby Engineering & Management Corp., Chicago, Ill.
Knowles, Inc., Morris, Pittsburgh, Pa.
Main, Inc., Chas. T., Boston, Mass.
Sanderson & Porter, New York, N. Y.
Schofield Engineering Co., Philadelphia.
White Engineering Corp., J. G., Ntw York.

—(Railroad.)
Huey, S. E., Monroe, La.
—(Reinforced Concrete Bridges, Buildings, etc.)
Freeland, Roberts & Co., Nashville, Tenn.
Gardner & Howe, Memphis, Tenn.
Greiner & Co., J. E., Baltimore, Md.
Lockwood Greene Engrs., Inc., New York.

Main, Inc., Chas. T., Boston, Mass.
Steel & Leiby, Knoxville, Tenn.
Tucker & Laxton, Charlotte, N. C.
Turner, C. A. P., Minneapolis, Minn.
Wheeler, Walter H., Minneapolis, Minn.
—(Sales Analysis.)
May, Inc., Geo. S., Chicago, Ill.

—(Sanitary.)
Cramer, Robert, Milwaukee, Wis.
Harza Engineering Co., Chicago.
Whitman, Requaardt & Smith, Balto., Md.
Wiley & Wilson, Lynchburg, Va.

—(Sewage Disposal Plants.)
Cramer, Robert, Milwaukee, Wis.
McCraty Co., The, J. B., Atlanta, Ga.
Whitman, Requaardt & Smith, Balto., Md.
Wiedeman and Singleton, Inc., Atlanta.
Wiley & Wilson, Lynchburg, Va.

—(Sewerage and Waterworks.)
Conard, William R., Burlington, N. J.
Consoer, Older & Quinlan, Inc., Chicago.
Hardway Contracting Co., Columbus, Ga.
Harris Engr. Co., N. Nashville, Tenn.
Hills and Youngberg, Jacksonville, Fla.
Knowles, Inc., Morris, Pittsburgh, Pa.
Sanderson & Porter, New York, N. Y.
Tucker & Laxton, Charlotte, N. C.
White Co., Gilbert C., Durham, N. C.
White Engineering Corp., J. G., New York.

Whitman, Requaardt & Smith, Balto., Md.
Wiedeman & Singleton, Inc., Atlanta, Ga.
Wiley & Wilson, Lynchburg, Va.

—(Structural.)
Freeland, Roberts & Co., Nashville, Tenn.
Hedrick, Inc., Ira G., Hot Springs Nat'l Park, Ark.
Hills and Youngberg, Jacksonville, Fla.
Huey, S. E., Monroe, La.
Lockwood Greene Engrs., Inc., New York.

Southern Erectors, Inc., Tampa, Fla.
Turner, C. A. P., Minneapolis, Minn.
United Engineers & Constructors, Phila.
Virginia Bridge & Iron Co., Roanoke, Va.
Whitman, Requaardt & Smith, Balto., Md.

—(Textile Mills.)
Lockwood Greene, Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.
Sirrline & Co., J. E., Greenville, S. C.

—(Transmission Lines.)
Hoosier Engineering Co., Chicago, Ill.
—(Ventilating and Heating.)
Wiley & Wilson, Lynchburg, Va.

—(Water Supply.)
Whitman, Requaardt & Smith, Balto., Md.
Wiley & Wilson, Lynchburg, Va.

ENGINES (Compressed Air.)
Dake Engine Co., Grand Haven, Mich.

—(Diesel Type.)
Fairbanks, Morse & Co., Chicago, Ill.

—(Gas and Gasoline.)
Sterling Engine Co., Buffalo, N. Y.

—(Marine.)
Fairbanks, Morse & Co., Chicago, Ill.

—(OIL.)
Continental Oil Co., Birmingham, Ala.

—(Steam.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.

Lombard Iron Works & Supply Co., Augusta, Ga.

Schofield's Sons Co., J. S., Macon, Ga.

ENVELOPES.
Young & Selden Co., Baltimore, Md.

ESTIMATORS (Building & Construction.)
Martin, Joe B., Charlotte, N. C.

EXCAVATING MACHINERY.
Bay City Shovels, Inc., Bay City, Mich.

Bucyrus-Erie Co., So. Milwaukee, Wis.

Harnischfeger Corp., Milwaukee, Wis.

Industrial Brownhoist Corp., Cleveland.

National Equipment Corp. (Koehring, Insley, Parsons), Milwaukee, Wis.

Northwest Engineering Co., Chicago, Ill.

Owen Bucket Co., The, Cleveland, Ohio.

Thew Shovel Co., The, Lorain, Ohio.

EXCAVATORS (Clamshell and Orange Peel.)
Northwest Engineering Co., Chicago, Ill.

Ohio Power Shovel Co., Lima, Ohio.

Thew Shovel Co., Lorain, Ohio.

—(Dragline. See Dragline Excavators.)

—(Trench.)
Barber-Greene Co., Aurora, Ill.

Bay City Shovels, Inc., Bay City, Mich.

Bucyrus-Erie Co., So. Milwaukee, Wis.

Harnischfeger Corp., Milwaukee, Wis.

Ohio Power Shovel Co., Lima, Ohio.

EXPANSION JOINTS (Road and Street.)
Carey Co., Philip, Lockland, Cincinnati, Ohio.

EXPLOSIVES.
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

FACTORY Management Systems.
Ernst & Ernst, New York, N. Y.

FEED-WATER HEATERS and Purifiers.
American Water Softener Co., Phila., Pa.
International Filter Co., Chicago, Ill.

FENCE POSTS (Creosoted.)
American Creosoting Co., Louisville, Ky.
Ayer & Lord Tie Co., Chicago, Ill.

FENCING, ENTRANCE GATES (Iron, Steel and Wire.)
American Steel and Wire Co., Balto., Md.
Cyclone Fence Co., Waukegan, Ill.
Gulf States Steel Co., Birmingham, Ala.
—(Field and Industrial, Wire Woven.)
American Steel and Wire Co., Balto., Md.

Cyclone Fence Co., Waukegan, Ill.
Gulf States Steel Co., Birmingham, Ala.
Robertson Steel & Iron Co., W. F., Cincinnati, O.

FERTILIZER Mixing Plants
Gruendler Crusher & Pulverizer Co., St. Louis, Mo.

FILTER (For Domestic and Industrial Purposes.)
American Water Softener Co., Phila., Pa.
Bacharach & Co., E. W., Kansas City, Mo.
International Filter Co., Chicago, Ill.
Roberts Filter Mfg. Co., Darby (Phila.), Pa.

—Cloth.
Newark Wire Cloth Co., Newark, N. J.

FINANCING.
Electric Bond & Share Co., New York.
Gay & Co., W. O., New York, N. Y.

FIREPROOF Building Material.
Bannon Pipe Co., Louisville, Ky.

—Doors and Shutters.
Wilson Corp., The, J. G., New York City.

FITTINGS (Wire Rope.)
American Steel & Wire Co., Chicago, Ill.
Roebbling's Sons Co., John A., Trenton, N. J.

FLANGES (Iron and Steel.)
Amer. Cast Iron Pipe Co., Birmingham.
Dart Mfg. Co., E. M., Providence, R. I.
National Cast Iron Pipe Co., Birmingham.
Taylor Forge & Pipe Wks., Chicago, Ill.
U. S. Pipe & Foundry Co., Burlington, N. J.

—(Swivel.)
Merco Nordstrom Valve Company, San Francisco, Cal.

FLOOR (Asphalt Mastic.)
Barber Asphalt Co., Philadelphia, Pa.

—(Cork Composition.)
Congoleum-Nairn Inc., Kearny, N. J.

—(Linoleum.)
Congoleum-Nairn Inc., Kearny, N. J.

—(Northern Hard Maple.)
Holt Hardwood Co., Oconto, Wis.

—(Open Steel.)
Blaw-Knox Co., Pittsburgh, Pa.

Kerlow Steel Flooring Co., Jersey City, N. J.

—Covering.
Congoleum-Nairn Inc., Kearny, N. J.

—Hardner (Concrete.)
Sonnenborn Sons, Inc., L., New York.

—Plates and Stair Treads.
Central Iron & Steel Co., Harrisburg, Pa.

—Wax.
Congoleum-Nairn Inc., Kearny, N. J.

FLUMES.
Alco Products, Inc., New York, N. Y.

FLUSH-TANK SIPHONS.
Pacific Flush-Tank Co., New York, N. Y.

FORMED PRODUCTS (Roofing.)
American Rolling Mill Co., Middletown.

FORMS, Steel (For Concrete Culverts, Roads, Streets, Curbs, Sidewalks, Tiles.)
Blaw-Knox Co., Pittsburgh, Pa.

FOUNDRIES and Machine Shops.
General Machine Works, York, Pa.

Glamorgan Pipe & Fdy. Co., Lynchburg, Va.

Golden Fdy. & Mch. Co., Columbus, Ga.

Lombard Iron Works & Supply Co., Augusta, Ga.

Mountain State Steel Foundries, Parkersburg, W. Va.

Richmond Foundry & Mfg. Co., Richmond, Va.

Savannah Machine & Fdy. Co., Savannah.

FOUNDRY Equipment and Supplies.
Hill & Griffith Co., Cincinnati, O.

—Facings (Talc and Soapstone.)
Hill & Griffith Co., Cincinnati, O.

FURNACES (Industrial.)
Combustion Engr. Corp., New York City.
—(Water-Cooled.)
Combustion Engr. Corp., New York City.
Fuller Lehigh Co., Fullerton, Pa.

GALVANIZED Products.
Bessemer Galvanizing Works, Birmingham, Ala.
Birmingham Galvanizing Co., Birmingham, Ala.
Cattle & Bros., Jos. P., Philadelphia, Pa.
—Steel and Iron.
American Rolling Mill Co., Middletown, O.
American Sheet & Tin Plate Co., Pittsburgh, Pa.
Granite City Steel Co., Granite City, Ill.

GALVANIZING (Cadmium Plating.)
Birmingham Galvanizing Co., Birmingham, Ala.

—(Hot Dip.)
Bessemer Galvanizing Works, Birmingham.
Birmingham Galvanizing Co., Birmingham, Ala.
Cattle & Bros., Jos. P., Philadelphia, Pa.
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.

GAS HOLDERS.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Wks., Birmingham.

—Producers
Wood & Co., R. D., Philadelphia, Pa.

GASOLINE and KEROSENE.
Gulf Refining Co., Pittsburgh, Pa.

GASOLINE SHOVELS (See Shovels.)

GATES.
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.

GEARS.
DeLaval Steam Turbine Co., Trenton, N.J.
Earle Gear & Machine Co., Phila., Pa.
General Electric Co., Schenectady, N. Y.
—(Worm Reduction.)
DeLaval Steam Turbine Co., Trenton, N.J.

GENERATORS, MOTORS (New.)
General Electric Co., Schenectady, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

—(Used.)
O'Brien Machinery Co., Phila., Pa.
Randle Machinery Co., The, Cincinnati, O.

GEOLOGISTS. (See Engineers Geological.)

GLASS (Art.)
Hires Turner Glass Co., Philadelphia, Pa.
—(Plate.)
Hires Turner Glass Co., Philadelphia, Pa.
Southwestern Sheet Glass Co., Okmulgee, Okla.

—(Window.)
Hires Turner Glass Co., Philadelphia, Pa.
Pittsburgh Plate Glass Co., Pittsburgh.
Southwestern Sheet Glass Co., Okmulgee, Okla.

—(Wire.)
Hires Turner Glass Co., Philadelphia, Pa.
Southwestern Sheet Glass Co., Okmulgee, Okla.

GRADERS (Elevating.)
Caterpillar Tractor Co., Peoria, Ill.

GRAPHITE.
Dixon Crucible Co., Jos., Jersey City, N.J.

GRATES and Grate Bars.
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National Equipment Corp. (C. H. & E. Division), Milwaukee, Wis.
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MENTS, (Dredging, Docks,

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Arundel Corp., The Baltimore, Md.

Atlantic Gulf and Pacific Co., New York

Kansas City Bridge Co., Kansas City.

RIVETS.

Russell, Burdall & Ward Bolt & Nut

Co., Port Chester, N. Y.

ROAD and Street Machinery.

Austin-Western Road Machy. Co., Chi-

cago.

Blaw-Knox Co., Pittsburgh, Pa.

Buffalo-Springfield Roller Co., Spring-

field, O.

Caterpillar Tractor Co., Peoria, Ill.

Erie Machine Shops, Erie, Pa.

Gillie Machine Co., Tonawanda, N. Y.

Harris Co., B. W. & Leo, Minneapolis,

Minn.

Huber Mfg. Co., The, Marion, Ohio.

Universal Crane Co., Lorain, Ohio.

—and Street Material.

Borley & Co., W. W., Roanoke, Va.

Dickinson & Co., J. Q., Malden, W. Va.

Truscon Steel Co., Youngstown, Ohio.

Woodstock Slag Corp., Birmingham, Ala.

—and Street Material (Dust

Laying.)

Dickinson & Co., J. Q., Malden, W. Va.

—Graders and Scrapers.

Austin-Western Road Machy. Co., Chicago.

Caterpillar Tractor Co., Peoria, Ill.

—Oils and Preservatives.

Gulf Refining Co., Pittsburgh, Pa.

—Rollers (Steam and Gasoline.)

Austin-Western Road Machy. Co., Chicago.

Buffalo-Springfield Roller Co., Spring-

field, O.

Erie Machine Shops, Erie, Pa.

Huber Mfg. Co., The, Marion, Ohio.

—Scarifiers.

Austin-Western Road Machy. Co., Chicago.

Buffalo-Springfield Roller Co., Spring-

field, O.

ROOF INSULATION.

Armstrong Cork & Insulation Co., Lan-

caster, Pa.

United Cork Companies, Lyndhurst, N. J.

ROOFING (Asphalt Built-Up.)

Barber Asphalt Co., Philadelphia, Pa.

—(Ready Prepared, Felt, Tar,

Asbestos, Asphalt.)

Ruberoid Co., New York City.

—and Siding (Composition.)

Ruberoid Co., New York City.

—and Siding (Metal.)

American Rolling Mill Co., Middletown, O.

American Sheet and Tin Plate Co., Pitts-

burgh, Pa.

Gulf State Steel Co., Birmingham, Ala.

Ryerson & Son, Jos. T., St. Louis and

New York

Truscon Steel Co., Youngstown, Ohio.

Youngstown Sheet and Tube Co., Youngs-

town, O.

—Tile, Cement (Interlocking

Flat, Channel Glass.)

Federal-American Cement Tile Co., Chi-

cago.

—Tiles.

Federal-American Cement Tile Co., Chi-

cago.

RULES (Steel.)

Larkin Rule Co., Saginaw, Mich.

SAFES.

York Safe & Lock Co., York, Penna.

SAND.

Arundel Corp., Baltimore, Md.

Friend & Co., Inc., Petersburg, Va.

Georgia Sand & Gravel Co., Augusta, Ga.

SANITARY Drinking Fountains.

Rundle-Spence Mfg. Co., Milwaukee, Wis.

SASH (Industrial.)

Truscon Steel Co., Youngstown, Ohio.

SAWMILL Machinery.

Schofield's Sons Co., J. S., Macon, Ga.

SAW RIGS.

National Equipment Corp., (C. H. & E.

Division), Milwaukee, Wis.

SAWS (Cold Metal.)

Earle Gear and Machine Co., Phila., Pa.

SCRAPERS (Drag and Wheel.)

Austin-Western Road Machy. Co., Chicago.

Harris Co., B. W. & Leo, Minneapolis,

Minn.

SCRAP IRON AND STEEL.

Hunts Sons, M. J., Philadelphia, Pa.

Perry, Burton, Doane Co., Philadelphia.

Smith & Co., W. M., Birmingham, Ala.

SCREEN CLOTH.

Seneca Wire & Mfg. Co., Fostoria, Ohio.

SCREENING (For Concrete and

Road Construction.)

American Limestone Co., Knoxville, Tenn.

—Screens (Sand, Gravel, Stone,

Coal, Ore, etc.)

Chicago Perforating Co., Chicago, Ill.

Diamond Iron Works, Minneapolis, Minn.

Erdie Perforating Co., Rochester, N. Y.

Grundler Crusher & Pulverizer Co., St.

Louis, Mo.

Hendrick Mfg. Co., Carbondale, Pa.

Mundt & Sons, Charles, Jersey City, N.J.

Universal Crusher Co., Cedar Rapids, Ia.

—(Sifting.)

Newark Wire Cloth Co., Newark, N. J.

SCREW-Machine Products.

Progressive Mfg. Co., Torrington, Conn.

SCREWS (Machine.)

Progressive Mfg. Co., Torrington, Conn.

SEAWALLS.

Shore-Line Builders, Inc., Jacksonville,

Fla.

SEWAGE Disposal Apparatus.

Pacific Flush-Tank Co., New York, N. Y.

—Disposal System.

D-N Corporation, Winston-Salem, N. C.

SEWER Joint Compounds.

Leadite Co., Philadelphia, Pa.

Pacific Flush-Tank Co., New York, N. Y.

—Pipe (Vitrified.)

Bannon Pipe Co., Louisville, Ky.

Lee Clay Products Co., Clearfield, Ky.

Owensboro Sewer Pipe Co., Owensboro, Ky.

—Pipe Machinery (Concrete.)

Quinn Wire & Iron Works, Boone, Iowa.

SHAFTING.

Ryerson & Sons, Inc., Jos. T., St. Louis

and New York

—Material (Tubular.)

National Tube Co., Pittsburgh, Pa.

SHARPENING Stones.

Carborundum Co., Niagara Falls, N. Y.

SHEET Metal Working Ma-

chinery.

Bliss Co., E. W., Brooklyn, N. Y.

Whitney Metal Tool Co., Rockford, Ill.

Yoder Co., The, Cleveland, Ohio.

—Steel and Iron.

American Sheet and Tin Plate Co., Pitts-

burgh, Pa.

Bethlehem Steel Co., Bethlehem, Pa.

Granite City Steel Co., Granite City, Ill.

Gulf States Steel Co., Birmingham, Ala.

Ryerson & Son, Inc., Jos. T., St. Louis

and New York

Tennessie Coal, Iron & Railroad Co.,

Birmingham, Ala.

Youngstown Sheet & Tube Co., Youngs-

town, O.

SHEETS (Asbestos.)

Ruberoid Co., New York City.

—(Galvanized and Black.)

American Rolling Mill Co., Middletown,

American Sheet & Tin Plate Co., Pitts-

burgh, Pa.

SHINGLES (Asbestos.)

Ruberoid Co., New York City.

SHIPBUILDING.

Charleston Dry Dock & Machine Co.,

Charleston, S. C.

Newport News Shipbuilding & Dry Dock

Co., Newport News, Va.

SHOVELS (Steam, Gas and

Electric Power.)

Bucyrus-Erie Co., So. Milwaukee, Wis.

Harnischfeger Corp., Milwaukee, Wis.

Industrial Brownholt Corp., Cleveland, O.

National Equipment Corp., (Koehring,

Insley), Milwaukee, Wis.

Northwest Engineering Co., Chicago, Ill.

Ohio Power Shovel Co., Lima, Ohio.

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has held
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sand and
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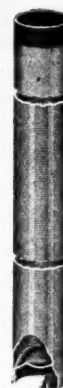


Fig. 50

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AUGUSTA, GA.



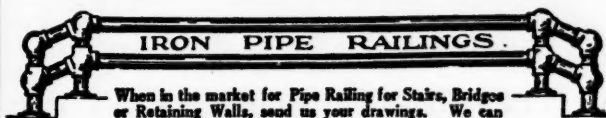
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LAYNE COMPLETE WELL WATER SYSTEMS



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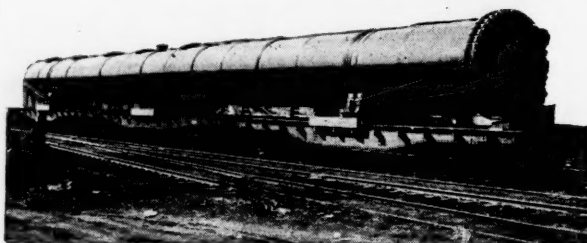
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Lead Lined
Monel Metal
Tin Lined

BOILERS—HRT
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Cole Creosoting Cylinder 8' diameter x 138' long.

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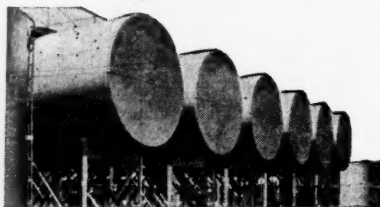
AIR-TIGHT STEEL TANK CO.

PITTSBURGH, PA.



TANKS FOR: High pressure gas and air storage—Pneumatic water systems—Gasoline and oil storage—Oil burning equipment—Open top—Welded. ATSCO Genuine Copper Brazen Tanks for high pressure—the tightest, safest, strongest tank it is possible to construct by any known process. ASME code tanks.

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Carolina Steel & Iron Co., Greensboro, N. C.
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Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Wks., Birmingham.
Combustion Engr. Corp., New York City.
Downingtown Iron Works, Downingtown, Pa.
Hedges Walsh Welding Co., Chattanooga, Tenn.
Ingalls Iron Works Co., Birmingham, Ala.
Lancaster Iron Works, Inc., Lancaster, Pa.
Phoenix Iron Co., The, Phila., Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Schofield's Sons Co., J. S., Macon, Ga.
Traylor Engr. & Mfg. Co., Allentown, Pa.
United Welding Co., Middletown, O.

STILLS.
Alco Products, Inc., New York City.

STOKERS (Mechanical.)
Alabama Stoker & Boiler Co., Birmingham, Ala.
Babcock & Wilcox Co., The, New York.
Combustion Engr. Corp., New York City.
Detroit Stoker Company, Detroit, Mich.

STORAGE Batteries.
Electric Storage Battery Co., Philadelphia.
—Bins (Steel.)
Blaw-Knox Co., Pittsburgh, Pa.
Butler Bin Co., Waukesha, Wis.

STRINGERS (Bridge-Creosoted.)
American Creosoting Co., Louisville, Ky.

STRUCTURAL STEEL AND IRON.
American Bridge Co., New York, N. Y.
Austin Iron Bridge Co., Atlanta, Ga.
Belmont Iron Works, Philadelphia, Pa.
Bristol Steel & Iron Works, Inc., Bristol, Va.
Carnegie Steel Co., Pittsburgh, Pa.
Carolina Steel & Iron Co., Greensboro, N. C.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Converse Bridge & Steel Co., Chattanooga, Tenn.
Dietrich Brothers, Baltimore, Md.
Eichleay, Jr., Co., John, Pittsburgh, Pa.
Ingalls Iron Works Co., Birmingham, Ala.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
McClintic-Marshall Co., Pittsburgh, Pa.
Phoenix Iron Co., The, Phila., Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Roanoke Iron & Bridge Works, Inc., Roanoke, Va.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Snead Architectural Iron Works, Louisville, Ky.
Southern Engineering Co., Charlotte, N. C.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Virginia Bridge & Iron Co., Roanoke, Va.

SULPHATE OF ALUMINA.
Grasselli Chemical Co., Inc., Birmingham.

SULPHIDE OF SODA.
Grasselli Chemical Co., Inc., Birmingham.

SULPHURIC ACID.
Davison Chemical Co., The, Balto., Md.
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

SUPER-HEATERS (Steam.)
Babcock & Wilcox Co., The, New York.

SURVEYS (Industrial.)
MacElwee & Crandall, Inc., Cambridge, Mass.
Technical Service Co., New York, N. Y.

—(Quantity.)
Martin, Joe B., Charlotte, N. C.

SURVEYING INSTRUMENTS.
Weber Co., Inc., F., Philadelphia, Pa.

SWINGING ENGINES.
Dake Engine Co., Grand Haven, Mich.

SWITCHBOARDS, SWITCHES, ETC.
General Electric Co., Schenectady, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

SYSTEMS (Business.)
Ernst & Ernst, New York, N. Y.
May, Inc., Geo. S., Chicago, Ill.

TANKS (Air Compressor.)
Air-Tight Steel Tank Co., Pittsburgh, Pa.
Titusville Iron Works Co., Titusville, Pa.

—(Elevated Steel.)
Caldwell Co., Inc., W. E., Louisville, Ky.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Wks., Birmingham.
Cole Mfg. Co., R. D., Newnan, Ga.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

Schofield's Sons Co., J. S., Macon, Ga.
Virginia Bridge & Iron Co., Roanoke, Va.
—(Elevated Wood.)
Caldwell Co., Inc., W. E., Louisville, Ky.
Davis & Son, G. M., Palatka, Fla.

—(Iron and Steel.)
Air-Tight Steel Tank Co., Pittsburgh, Pa.
American Bridge Co., New York, N. Y.
Birmingham Tank Co., Birmingham, Ala.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Wks., Birmingham.
Cole Mfg. Co., R. D., Newnan, Ga.
Downingtown Iron Works, Downingtown, Pa.
Finnigan Co., Inc., J. J., Atlanta, Ga.
Lancaster Iron Works, Inc., Lancaster, Pa.
Lombard Iron Works & Supply Co., Augusta, Ga.
McClintic-Marshall Co., Pittsburgh, Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Schofield's Sons Co., J. S., Macon, Ga.
Titusville Iron Works Co., Titusville, Pa.
Virginia Bridge & Iron Co., Roanoke, Va.
Westinghouse Traction Brake Co., Wilmerding, Pa.

—Mixing.
Alco Products, Inc., New York, N. Y.

—(Pressure.)
Air-Tight Steel Tank Co., Pittsburgh, Pa.
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.

—(Seamless Steel.)
Air-Tight Steel Tank Co., Pittsburgh, Pa.
National Tube Co., Pittsburgh, Pa.

—(Storage, Oil, etc.)
Biggs Boiler Works, Akron, Ohio.
Birmingham Boiler & Engr. Co., Birmingham, Ala.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Wks., Birmingham.
Downingtown Iron Works, Downingtown, Pa.
Ingalls Iron Works Co., Birmingham, Ala.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Titusville Iron Works Co., Titusville, Pa.
United Welding Co., Middletown, O.

—(Welded.)
Welded Products Co. of La., Inc., New Orleans, La.

—(Wood.)
Caldwell Co., Inc., W. E., Louisville, Ky.
Davis & Son, G. M., Palatka, Fla.
Virginia Mch. & Well Co., Richmond, Va.

TAPE (Measuring.)
Lufkin Rule Co., Saginaw, Mich.

TARPAULINS.
Fulton Bag & Cotton Mills, Atlanta, Ga.

TAX SPECIALISTS.
Ernst & Ernst, New York, N. Y.

TELEPHONE SERVICE.
American Telephone & Telegraph Co.

TENTS.
Fulton Bag & Cotton Mills, Atlanta, Ga.

TEXTILE CHEMICALS.
Grasselli Chemical Co., Inc., Birmingham.

TIES (Creosoted.)
American Creosoting Co., Louisville, Ky.

TILE (Cement Roofing.)
Federal-American Cement Tile Co., Chicago.

—(Cork Composition.)
Congoleum-Nairn Inc., Kearny, N. J.

—(Cork Flooring.)
Congoleum-Nairn Inc., Kearny, N. J.

—(Floor.)
Hood Co., B. Mifflin, Daisy, Tenn.

—(Roof.)
Hood Co., B. Mifflin, Daisy, Tenn.

—(Sewer.)
Lee Clay Products Co., Clearfield, Ky.

TIMBER (Creosoted.)
Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.

TIN AND TERNE PLATES.
American Sheet & Tin Plate Co., Pittsburgh, Pa.

Bethlehem Steel Co., Bethlehem, Pa.
Granite City Steel Co., Granite City, Ill.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

TOBACCO MACHINERY.
Ripley Foundry & Machine Co., Ripley, O.

TOOLS (Measuring.)
Lufkin Rule Co., Saginaw, Mich.

TOWERS (Electric Transmission.)
American Bridge Co., New York, N. Y.

Bessemer Galvanizing Works, Birmingham.

—(Radio.)
Bessemer Galvanizing Works, Birmingham.

—(Steel and Wood.)
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Cole Mfg. Co., R. D., Newnan, Ga.

TRACK (Portable or Permanent.)
Equipment Corp. of America, Chicago, Ill.
Sweet's Steel Co., Williamsport, Pa.

TRACTORS (Industrial.)
Atlas Car & Mfg. Co., The, Cleveland, O.
Caterpillar Tractor Co., Peoria, Ill.
Clark Tractor Co., Battle Creek, Mich.
International Harvester Co. of America, Inc., Chicago, Ill.

—(Road.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Caterpillar Tractor Co., Peoria, Ill.

TRAILERS (Arch-Girder, Heavy Duty.)
Williams Co., G. H., Erie, Pa.

TEAMWAYS, (Aerial Wire Rope.)
American Steel & Wire Co., Balto., Md.

TRANSFORMERS.
General Electric Co., Schenectady, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

—(Used.)
Electric Service Co., Cincinnati, O.

TRANSMISSION TOWERS
(Galvanized.)
McClintic-Marshall Co., Pittsburgh, Pa.

TRENCH MACHINERY. See
Excavators (Trench.)

TRI-SODIUM PHOSPHATE.
Grasselli Chemical Co., Inc., Birmingham.

TRUCK CRANES.
Universal Crane Co., Lorain, O.

TRUCKS (Industrial.)
Atlas Car & Mfg. Co., The, Cleveland, O.
—(Motor.)
International Harvester Co. of America, Inc., Chicago, Ill.

—(Platform, Freight, Mill, Factory, etc.)
Clark Tractor Co., Battle Creek, Mich.

TUBES (Boiler.) See Boiler
Tubes.

TUBING (Seamless Steel.)
National Tube Co., Pittsburgh, Pa.
Timken Rolling Bearing Co., Canton, O.

TURBINES (Deep Well.)
Cook, Inc., A. D., Lawrenceburg, Ind.

—(Hydraulic.)
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.
Smith Co., S. Morgan, York, Pa.

—(Steam.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
DeLaval Steam Turbine Co., Trenton, N. J.
General Electric Co., Schenectady, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

TURNBUCKLES.
Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.

TURNABLES.
American Bridge Co., New York, N. Y.
Virginia Bridge & Iron Co., Roanoke, Va.
—(Portable for Motor Trucks.)
Blaw-Knox Co., Pittsburgh, Pa.

UNIONS.
Dart Mfg. Co., E. M., Providence, R. I.

VALVES.
Ludlow Valve Mfg. Co., The, Troy, N. Y.
Lunkenheimer Co., The, Cincinnati, Ohio.
Merco Nordstrom Valve Co., San Francisco, Cal.
Mueller Co., Decatur, Ill.
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.
Westinghouse Traction Brake Co., Wilmerding, Pa.

—(Acid Proof.)
Lunkenheimer Co., The, Cincinnati, Ohio.

—(Gate.)
Ludlow Valve Mfg. Co., The, Troy, N. Y.
Lunkenheimer Co., The, Cincinnati, Ohio.
Wood & Co., R. D., Philadelphia, Pa.

VAULTS (Bank and Safe Deposit.)
York Safe & Lock Co., York, Penna.

VENTILATORS (Roof.)
Merchant & Evans Co., Philadelphia, Pa.

WARDROBES (Hygienic, School.)
Wilson Corp., The J. G., New York.

WATCHMAN'S PORTABLE CLOCKS.
Davis-Paradis Watchman's Clock Corp., New York, N. Y.

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Finnigan Co., Inc., J. J., Atlanta, Ga.

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Sonneborn, Sons, Inc., L., New York.

WATER Purification.
Bacharach & Co., E. W., Kansas City, Mo.
Roberts Filter Mfg. Co., Darby (Phila.), Pa.

—Softening Apparatus (Purifying.)
American Water Softener Co., Phila., Pa.
International Filter Co., Chicago, Ill.

—Well Supplies.
Cook, Inc., A. D., Lawrenceburg, Ind.

—Works Supplies and Appliances.
Amer. Cast Iron Pipe Co., Birmingham.
Cast Iron Pipe Research Assn., Chicago.
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.

Leadite Co., Philadelphia, Pa.
Mueller Co., Decatur, Ill.
U. S. Pipe & Foundry Co., Burlington, N. J.
Wood & Co., R. D., Philadelphia, Pa.

WELDING.
Charleston Dry Dock & Machine Co., Charleston, S. C.
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.
United Welding Co., Middletown, O.

WELDING APPARATUS (Electric Arc.)
General Electric Co., Schenectady, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

WELL CONTRACTORS (Oil, Artesian, etc.)
Petersburg Mchry. Pump & Well Co., Petersburg, Va.
Virginia Machy. & Well Co., Richmond, Va.

WELL STRAINERS (Brass.)
Cook, Inc., A. D., Lawrenceburg, Ind.

WHEELS AND AXLES.
Carnegie Steel Co., Pittsburgh, Pa.

WINDOW Frames and Sash
(Metal.)
Truscon Steel Co., Youngstown, Ohio.

WINDOWS (Bronze Casement.)
Michaels Art Bronze Co., Corvinton, Ky.

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American Steel & Wire Co., Chicago.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.

Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Seneca Wire & Mfg. Co., Fostoria, O.

—(Barbed Wire, etc.)
American Steel & Wire Co., Balto., Md.
Gulf States Steel Co., Birmingham, Ala.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

—(Fence.)
Cyclone Fence Co., Waukegan, Ill.
Robertson Steel & Iron Co., W. F., Cincinnati, O.
Stewart Iron Works Co., Cincinnati, O.

—(Flat and Round.)
American Steel & Wire Co., Balto., Md.
Roebbing's Sons Co., John A., Trenton, N. J.

Seneca Wire & Mfg. Co., Fostoria, O.
—(Galvanized and Annealed.)
Gulf States Steel Co., Birmingham, Ala.
Seneca Wire & Mfg. Co., Fostoria, O.

—Cloth (Iron, Steel, Copper, Brass, etc.)
Harrington & King Perf. Co., Chicago.

Newark Wire Cloth Co., Newark, N. J.
Roebbing's Sons Co., John A., Trenton, N. J.

Seneca Wire & Mfg. Co., Fostoria, O.

—Goods.
Cyclone Fence Co., Waukegan, Ill.

—Rope (Transmission, Hoisting, Haulage.)
American Steel & Wire Co., Chicago, Ill.
Roebbing's Sons Co., John A., Trenton, N. J.

—Rope Clips.
American Steel & Wire Co., Balto., Md.

—Stapling.
Seneca Wire & Mfg. Co., Fostoria, O.

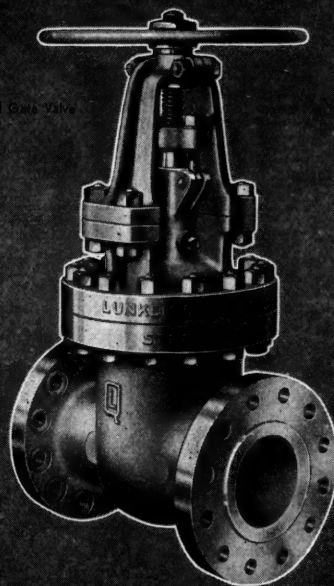
—(Telephone and Telegraph.)
American Steel & Wire Co., Balto., Md.

—(Welding.)
American Steel & Wire Co., Chicago, Ill.
Roebbing's Sons Co., John A., Trenton, N. J.

Seneca Wire & Mfg. Co., Fostoria, O.

ZINC CHLORIDE.
Grasselli Chemical Co., Inc., Birmingham.

ZINC META ARSENITE (Wood Preservative.)
Curtin-Howe Corp., New York City.
Gulf States Creos. Co., Hattiesburg, Miss.



15-54-42

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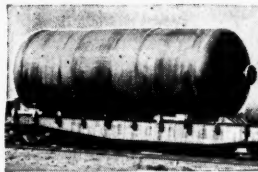
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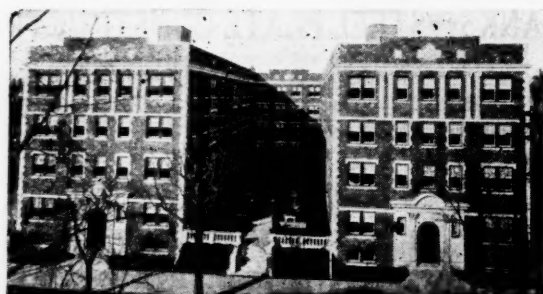
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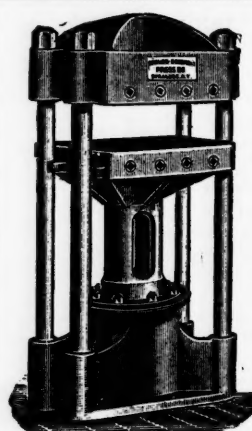
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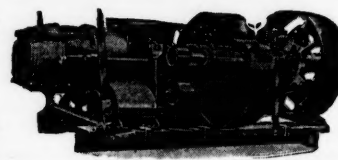
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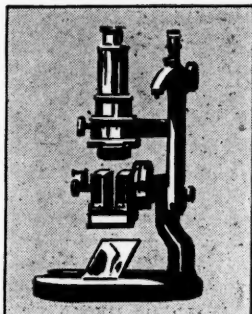
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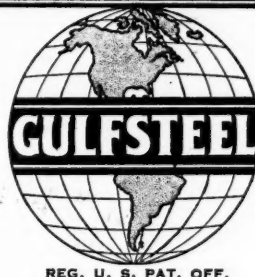
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